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Modifying the traditional classroom model to facilitate the development of creative skills.

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MODIFYING THE TRADITIONAL CLASSROOM MODEL TO
FACILITATE THE DEVELOPMENT OF CREATIVE SKILLS

A dissertation Presented

By

Donald Harold Murphy

Submitted to the Graduate School of the
University of Massachusetts in partial fulfillment
of the requirements for the degree of

DOCTOR OF EDUCATION

February, 1988

School of Education

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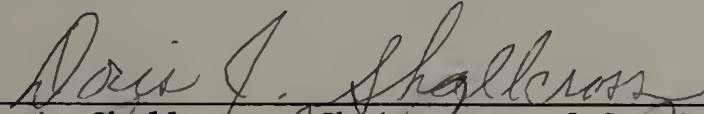
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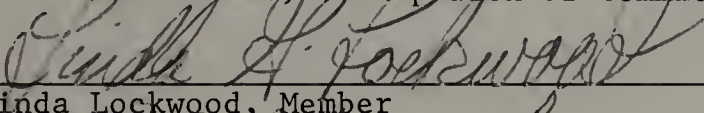
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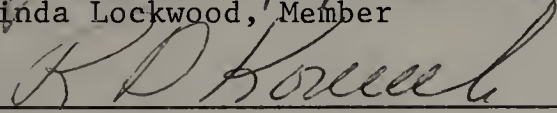
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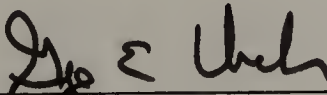
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ABSTRACT

MODIFYING THE TRADITIONAL CLASSROOM TO FACILITATE
THE DEVELOPMENT OF CREATIVE SKILLS

FEBRUARY, 1988

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The typical classroom model, found in most American high schools, often frustrates rather than motivates some students and as a result impacts negatively upon their learning process. The negative impact is often most pronounced on those students who have greater than average potential for creative expression.

This case study examined the effect of modifications in the usual program design of required world history and college preparatory English courses upon a group of students in grade 11. Modifications included compacting of the curriculum, student involvement in shaping of activities, giving academic credit for creatively oriented activities and the establishment of a supportive environment.

The participants in the project were selected by staff for their potential to benefit from such an altered program, for a previously demonstrated preference for less formal learning activities and for some traditional manifestations of creativity such as involvement in music, drama and art. While most of the students were in the college preparatory program, some came from the non college program.

Students were administered the "Torrance Tests of Creative Thinking", form A, at the beginning of the program and form B at the conclusion of the study. Additionally, pre and post testing on content was done, grades and test scores earned were compared with the results of other college preparatory sections and interviews were held with students and staff. Results indicated a small drop in scores related to fluency and flexibility but a sharp rise in scores related to originality.

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CHAPTER I INTRODUCTION

Introduction

"Our society and its educational institutions seem to have lost sight of the basic purposes of schooling and of the high expectations and disciplined effort needed to attain them."¹ With these words, the National Commission on Excellence in Education warned Americans that they had become a nation at risk because of the conditions of the public schools. To rectify these conditions the commission prescribed specific remedies including the inclusion in the curriculum of the "new basics", the raising of standards in evaluation of student work as well as in textbooks used, the assigning of more homework and an increase in the total amount of time devoted to study in the schools.²

To a large extent, these warnings and the prescriptive remedies suggested were similar to those given following the furor over Sputnik some twenty-five years earlier. At that time also, the focus seemed to be more rigor, more content and more time. In a similar vein, these two calls for change and reform dealt with the questions: what should be taught? how much of it should be taught? how often should it be taught?

While these two evaluations of the schools were highly publicized, they were not the only cries for change in the schools. Goodlad (1976) described the many calls for change as "...great clouds of reform rolling back and forth across the country."³ Despite this visible evidence of concern about the schools, Goodlad warned that "...it appeared increasingly that very little revitalizing moisture was getting to the parched educational fields below."⁴ He was joined in his appraisal of the

effectiveness of reform movements by Silberman (1970) who warned that they had failed to address the more basic processes in American education namely, the ways schools operate and the ways teachers teach.⁵ He also warned that they had failed to ask the right questions. Whereas most reformers looked at what is taught as well as how much is taught, he suggested instead that they seek answers to the questions: What is education for? What kind of human beings and what kind of society do we want to produce? What kind of methods of instruction and what type of classroom organization will help us realize our goals?⁶

The Problem

In the academic core areas, the typical classroom model is often non participatory, content oriented and sterile with respect to instructional techniques employed for motivational purposes and intellectual stimulation. The only differentiation found is usually the homogeneous grouping of students according to the rate at which they can absorb content. Thus, the best or most able students are seen as those who can absorb the greatest amount at the most accelerated pace. This model especially fails to take into consideration the needs of the creative child and in fact often impacts negatively upon his or her educational experience.

Background

The monolithic nature of the traditional classroom model has drawn fire from some educational observers for both its impact on the learner and the ramifications for society as a whole.

Perhaps because of the way they are trained, teachers frequently tend to see their role in the classroom to be the offering of subject matter, discipline and low level cognitive skills. They tend to develop methodologies to suit their role expectation. Mary Richards (1980) describes these offerings as a desert "...filling the soul with hopelessness" if they are not accompanied by a sense of wonder, enlightenment, the fostering of imagination, conscience and creative response.⁷ Silberman (1970) contends that these ameliorating factors are

absent and condemns the public school classroom for the "mutilation of spontaneity, the joy of learning, the pleasure of creating and the sense of self."⁸ Adler (1982) warns that without some joy of learning and active involvement of the mind in schooling, the students will lose interest in education and certainly not be interested in life long learning, which he feels is so necessary in a rapidly changing world.⁹ Assessing the schools impact on the ability of the students to think, Holt (1967) sees a negative situation where the child is taught to think badly and to give up a powerful and natural way of thinking in favor of a method that does not work well for them and that most people rarely use.¹⁰ This view was supported, according to June Cox (1984), by a recent MacArthur fellow who looked back upon an education in the public schools as a holding action whose impact was negative and which served as a deterrent to serious thinking.¹¹

A further argument against the prevalent teacher dominant, factual oriented classroom comes from Goodlad (1976) who suggests that there is now too much knowledge to selectively package. He warns that teaching as telling must rate low on any "hierarchy of instructional significance." He suggests that the school program must emphasize fundamental concepts and modes of learning that promote learning to learn. In this model, many opportunities would be provided to explore, to try, to test, to inquire and to discover for one's self.¹²

In addition to the sometimes devastating impact upon the individual, a warning has been raised about the way this model shapes students for their place in a democratic society. George Roche (1969) warns of an emphasis of collectivity over the individual.¹³ Barbara Benham-Tye (1985) reports of an

emotional atmosphere in the high schools that is both neutral and flat, of classrooms stressing passivity and low level cognitive activities where teachers talk and students listen, with a preponderance of memorization activities and almost total absence of systematic opportunities for self expression or decision making.¹⁴ Silberman (1970) also sees the American secondary school as authoritarian and repressive, transmitting the values of docility, passivity, conformity and lack of trust.¹⁵ Boyer (1983) asks how this passive and docile role can prepare students to be informed, active and questioning citizens.¹⁶ Torrance (1969) feels that in our schools it seems that teachers prefer their students to be courteous, to do their work on time, to be energetic as well as visibly industrious, to be popular and well liked by their peers, and to be accepting of the judgement of others. Like Boyer, Torrance sees these values as more likely to produce a people ready for brainwashing than one able to resist it.¹⁷

Although many students may suffer from the lethargy induced by the sonorous methodology of a typical secondary school classroom, perhaps none feels the impact more than the child with a penchant for creative expression. Joseph Khatena (1978) sees that the suppression of the creative and sense of self has had a devastating impact especially upon the learner with creative potential. He warns that, beneath a display of conformity and dependence, the creative child can suffer from a damaged self concept, withdrawal, acting out or in severe cases, neuroses.¹⁸ Taylor (1984) recalls the warnings of the historian Arnold Toynbee about the danger to society when creative potential is not developed:

"...to give a fair chance to potential creativity is a matter of life and death for any society. This is all

important because the outstanding creative ability of a fairly small percentage of the population is mankind's ultimate capital resource..(and)..is essential for the maintenance of society's health..One thing that is certain about human affairs is that they are perpetually on the move and the work of creative spirits is what gives society a chance of directing its inevitable movement along constructive instead of destructive lines."19

It appears that Toynbee might very likely agree with the warnings of the National Commission about our nation being at risk however, he and other critics would charge that the greatest danger to our schools lies in the inability of the current classroom model, and the methodologies practiced therein, to prepare our young people for the rapidly evolving future that awaits them. That, unless those who may have the greatest potential to design new and creative solutions to the world's problems are given the opportunities to develop their potential, we will be engulfed by these problems.

Purpose

The purpose of this study was to examine the impact of a revised classroom model upon a group of eleventh grade high school students identified as having a greater than average potential for creative output. The model featured a non threatening and supportive atmosphere as urged by Torrance, Khatena and Frankel. The environment was free of sarcasm from

both teacher and students and the atmosphere was one of encouragement so that new ideas could be examined without fear of ridicule.

Other features of the altered model included:

1. An interactive rather than re-active role for students where their input was sought in the planning and development of activities as well as in daily implementation of lessons rather than the usual sponging up of factual data.
2. A focus on higher level skills such as problem solving as compared to parroting back content.
3. The use of open ended questioning to encourage student to student discussion.
4. More individualized projects, the results of which would be used for evaluative purposes rather than merely the usual test and quiz. The focus of the projects was sufficiently broad so as to allow students to incorporate their special interest e.g. art, music, drama.
5. Limited use of lecture and substitution of other activities such as role playing, brain storming, debate.
6. Focus on Why? rather than What?
7. Opportunities for transfer of learning between classes.
8. The teacher occasionally became a learner and was always a facilitator of learning rather than the fount of facts.
9. Development of research skills so that students could do their own preparation, for the creative process, rather than being spoon fed packaged content.
10. An effort to focus on motivating the students so that Silberman's joyless classroom was avoided.

11. Allowance for and cultivation of spontaneity and original thought.
12. Ongoing opportunities for creative writing.
13. Focus on analyzing rather than memorizing.
14. Placing students in decision making modalities when dealing with major themes of literature or major events in history.
15. Encouraging an active student role rather than the docile and passive one usually seen and yet maintaining an atmosphere in which learning could occur.

The model was applied to college preparatory English and world history classes to which the same students were scheduled. In both classes there was some compacting of the regular curriculum so that time could be provided for activities.

Significance

These modifications to the traditional classroom can bring about greater student motivation to learn, increased capacities for creative expression/creative problem solving and a fuller understanding of underlying themes from literature and historical concepts. Students, can increase their knowledge of the cause/effect relationship between major events from history and the people involved in them. Students can also develop the ability to transfer, more readily, the new understandings, skills and knowledge to today's and tomorrow's problems.

The classroom teacher will benefit as well. More highly motivated students allow the teacher to concentrate on the learning process and less on maintenance of order. Additionally, the teacher will be encouraged to

develop more imaginative assignments because of the positive feedback from the students. Teachers who take part in a project oriented toward creativity are often motivated to learn more about this field.²⁰ By utilizing the interactive mode, made possible by the scheduling pattern, the staff participants can avoid some of the restricted peer to peer communication which causes a sense of isolation in the typical classroom.²¹ They also may become aware of abilities in pupils of which they were formerly unaware.²²

The project offers a model whereby creativity can be emphasized within the mainstream curriculum found in most American high schools. It also addresses the reality of "good" curriculum development, which Fraley feels is the art of the possible requiring a compromise because of limited resources.²³

Because of the increased sense of joy and satisfaction mentioned by the participating students, it may well be that the concepts upon which such a supportive classroom atmosphere rest would be included in teacher training programs.

Definition of Terms

Creativity

The ability to fashion fresh and new responses to problem situations; the processes leading to the development of a novel product or solution; enhanced abilities in fluency, flexibility, or originality; an individualized approach to seeing, doing, observing, relating, selecting, rejecting, formulating, testing, organizing and presenting.²⁴

Creative Process

The creative process begins with an impetus which may be a desire to create or the facing of a problem. In the case of a desire to create, an individual, as described by Khatena, may utilize an individualized model for freeing the imagination from its usual perceptual set so as to restructure ideas, thoughts and feelings into new products.²⁵ Also the individual may make use of a number of devices such as attribute listing, morphological synthesis or forced relationships.

Khatena sees a sensing of gaps, or missing elements, as beginning a problem solving process which involves the formulation of hypotheses, testing them, communicating the results and later revising them.²⁶ Wells sees the creative process as combining creative thought with events that induce such thought and the results from the creative experience. The catalysts are often environmental conditions which lead to the focusing of thought which must occur before a creative solution can be found.²⁷

Whether expressed as gaps or environmental conditions, the initial phase of the problem solving creates a tension similar to disequilibrium or lack of homeostasis which the individual attempts to resolve or restore. Often the attempts involve utilization of a model such as that of Wallas whereby the impetus is followed by a period of intense preparation. After the preparation is a period of incubation whereby the subconscious is allowed to process the input and this is followed by illumination which is the production of a novel solution.

The illumination is subjected to verification and any necessary changes are made in the proposed solution.²⁸

Traditional Classroom Model

As described by Benham-Tye, Adler and Silberman, a teacher directed and dominated classroom where students play a passive, non-participatory role. There is usually no sharing in the planning of activities and the methodology is either lecture or content oriented questioning that requires only low level cognitive skills on the part of the students.

Curriculum Compacting

Eliminating some factual detail to allow for greater in-depth study of key elements and focusing on the essential concepts and understandings in the content areas.

END NOTES CHAPTER ONE

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- 23 Angela E. Fraley, School and Innovation, The Rhetoric and the Reality (New York: Tyler Gibson, 1981), 200.
- 24 Margery J. Turner, "Creativity and the Whole Person," Gifted Child and Adult Quarterly vol.4, no.2(Summer, 1979), 100.
- 25 Khatena, 24.
- 26 Ibid.
- 27 Donald Wells, "Catalysts to Creativity," The Creative Child and Adult Quarterly vol.9, no.3(Autumn, 1984), 144.
- 28 Turner, 102.

CHAPTER II REVIEW OF RELATED LITERATURE

The literature review dealt with the two broad topics of creativity and the way change is brought about in the schools. Within the field of creativity, the review included the nature of creativity, the impact of the traditional school upon creative growth and creative expression, methods for identifying students who have a high potential for creative growth, conditions that foster creative growth and the way that creative growth can be measured. Since the project involved the introduction of change into a school, the literature dealing with how this can be done effectively was also reviewed. As part of the review, a search of dissertations published during the past ten years was done to seek comparable models that combined changes in the schools and the support of/for creative students.

Creativity

Paul Joseph Burgett advances the idea that creativity is the ability to fashion fresh and new responses to problems presented by the available body of knowledge.¹ A second perspective on the nature of creativity is offered by Margery J. Turner who defines it as an individual approach to seeing, doing, observing, relating, selecting, rejecting, formulating, testing, organizing, presenting, thinking and decision making. She states that creativity is characterized by curiosity, openness of attitude toward learning, highly individual perception, connecting of information in a

personally meaningful way, motivation to search, initiative and drive to seek solutions, as well as objectivity in evaluating of experience. 2 From this same study, a five step cycle is offered as an explanation of the essence of creativity:

1. the impulse to create
2. the gathering of material and investigation of how to use it
3. incubation where the work proceeds unconsciously
4. illumination where the work of the unconscious becomes known
5. the process of revision in which elaborations, alterations and corrections are made.³

Joseph Khatena, sees creativity as being three dimensional consisting of the individual, including abilities and all personality dimensions, the environment, which in its largest sense includes society and culture, and the cosmos which includes suprarational forces.⁴ While admitting that little is known of category three, he feels that quite a bit is known about the first two and that they can be measured with some of the instruments that we presently have. He suggests that one look for abilities of divergent production, or fluency, flexibility, originality, elaboration, resistance to premature closure of one's mind, richness of imagery, fantasy, extending or breaking of boundaries and an unusual visual perspective. Khatena defines these stated abilities as follows:

1. Fluency-the production of many ideas about something
2. Flexibility-the ability to see something as being used in a manner different from the norm
3. Originality-equated with uniqueness

4. Elaboration-the ability to add on or modify something
5. Resistance to premature closing-being able to allow one's mind to consider all possibilities before making a decision
6. Richness of imagery-the ability to see from a holistic perspective and create metaphors
7. Fantasy-the ability to go beyond that which is decreed by custom⁵

Utilizing a metaphor, Kurt Motamedi describes creativity as one of the essential ways that human beings "choicefully" extend themselves beyond the ordinary. He describes this extension as a journey containing a number of passages, each of which elicit different feelings and styles of thinking. However, basic to the process is the formation and development of the pursuer's relationship with the object of discovery.⁶ To support his ideas, Motamedi quotes Carl Rogers "...the emergence in action of a novel relational product growing out of the uniqueness of the individual on one hand and the materials, events, people or circumstances of one's life on the other."⁷

E. Paul Torrance describes creativity as having eight stages:

1. Wanting to know-asking questions, engaging in the absorbed search for truth, testing guesses, finding better ways of finding out and preparing for the use and extension of learning skills throughout life
2. Digging Deeper-attempting more difficult tasks, shunning mediocrity and the quick easy way, hungering for excellence and working hard to achieve it, keeping the capacity open for genuine affection, love, empathy and honesty of feeling
3. Looking Twice and Listening for Smells-looking from different angles, taking a closer look, experiencing with all senses,

submerging self in ideas and projects, enjoying working alone at times

4. Listening to a Cat-learning to listen and communicate with understanding, trying to find out what really matters to others, developing skills of empathy, expressing ideas and feelings accurately and honestly through nonverbal means, expressing self through creative movements, creative dramatics, visual art and creative readings.

5. Crossing out Mistakes-gathering courage to attempt something difficult and important even with the expectation of making mistakes, using mistakes constructively to move forward to new levels of skills and dignity as well as learning reality through direct, personal experience.

6. Getting into and out of Deep Water- testing one's skills and abilities, testing the situation, testing one's resources, taking calculated risks, asking questions for which no ready answer exists, making choices, seeing defects in the existing order, gaining confidence in the ability to get out of deep water.

7. Having a Ball-enjoying bursting forth to a new level of knowing and functioning, being able to laugh, play, fantasize and loaf, being careful but not overcautious or fearful, finding fun and pleasure in work and learning.

8. Cutting Holes to See Through-tolerating and manipulating complexity, incompleteness and imperfections to achieve breakthroughs and genuine innovations.⁸

Drawing from these varied definitions and perspectives of creativity,

a number of key elements or understandings emerge. First, it is clear that creativity involves a novel response to a situation or problem. Second, there are a number of stages involved in the creative process that usually include recognition of a problem or a feeling that one needs to create, gathering of information or resources upon which to draw, some type of introspective process whereby the resources are utilized by the subconscious, the realization of a solution or product and a process of refining at the conclusion so that the end best meets the situation that initiated the process.

In addition to establishing a commonly accepted definition, a second concern, for those interested in creativity, has been how to identify those students who should be defined as creative and who should therefore receive special attention in this area. Quite often this has meant equating creativity with giftedness and using the usual criteria of IQ scores as well as academic performance. It is interesting to note that this latter practice continues today despite a number of major studies that indicate that the correlation between giftedness, as commonly defined by an IQ above 130, and creativity is not absolute, and that by using an arbitrary cutoff, a significant number of creative students can be left unidentified.

One of the first major studies to cast doubt on the wisdom of this means of identification was done by Getzels and Jackson in 1963. They set as their task the examination of the correlation between IQ and creativity and found a negative relationship. Those who scored highest as a group on the IQ test did not score the highest on tests of creativity. They also found that teachers preferred the high IQ student and often viewed the creative student as an overachiever.⁹

Supporting the findings of Getzels and Jackson were those of Torrance and Wu who did a comparative longitudinal study of the adult creative achievements of elementary school children who had been identified as highly creative and highly intelligent when in school. They used a sample of students, who in 1958 were enrolled in grades 1-6 in Minneapolis and who had been identified by use of the Torrance Test of Creative Thinking as being creative but not gifted, with a mean IQ of 121. The group, averaging 27.5 years of age, at the time of the study, was sent questionnaires containing the following criteria:

1. number of high school creative achievements
2. number of post high school creative achievements
3. number of creative style of life achievements
4. creativeness of future career image.

On the basis of the data returned, Torrance and Wu felt that the creative but not gifted students equalled or exceeded those who were gifted as well as those who were identified as gifted/creative.¹⁰

Roberta Milgram offers further support for the differentiation between giftedness and creativity. In discussing the Getzels and Jackson study, she acknowledges that it could only be replicated with high IQ students, but states that the importance of the study was that it showed that scores of creative thinking were a source of information about cognitive abilities of teenagers, which were not recognized by conventional tests of intelligence.¹¹ She cites a number of studies in Israel (Milgram, 1983; Milgram and Feingold, 1977; Milgram and Milgram, 1976a; Milgram and Milgram 1976b; Milgram, Milgram, Rosenbloom and Rabkin, 1978) whose findings confirmed "the creativity-intelligence distinction across a wide age range", and have demonstrated differences on tests of creativity and intelligence in young children and adolescents with a wide range of intelligence level, social class, and cultural background.¹²

Approaching the topic of identifying gifted/creative students in a somewhat different manner, Delisle and Renzulli also attack the use of the IQ as the single determinant of giftedness. They feel that giftedness is recognized in expressed behaviors rather than in academic or personality traits and that gifted behaviors within an individual are temporary and specific to certain areas of study and do not necessarily occur constantly.

They feel that gifted behaviors are exhibited by a relatively large proportion of the general population at certain times, in certain situations and under certain circumstances.¹³ Based on this theory they have advanced the "Revolving Door Identification and Performing Model" in which students are rotated through a resource room when their interest warrants it. They advocate the establishment of a talent pool of gifted students by utilization of achievement scores in reading or math at the seventy-fifth percentile, using local norms, group IQ scores at or above the seventy-fifth percentile, again using local norms as well as teacher recommendation in at least one of four areas: creativity, leadership, learning characteristics and motivation.¹⁴ In their study, children in the top twenty-five percent were divided into two groups using class rank. The first was the group traditionally seen as gifted, namely those in the ninety- fifth percentile and above and the second expanded group between the seventy-fifth and ninety-fifth percentiles. Delisle and Renzulli found that the students in the second group could perform as well as those in group one under specific conditions and at specific times.¹⁵

Renzulli, in a second paper, states that there are two types of giftedness: 1. schoolhouse giftedness which is related to test taking or lesson learning and which is relatively easy to measure by use of IQ and other cognitive means. The emphasis with this type is on deductive learning, structured training in the development of thinking processes and the acquisition and retrieval of information. He supports acceleration for this group. 2. creative/ productive giftedness in which a premium is placed on development of original material and/or products that are "purposefully designed to have an impact upon one or more target

audiences." Learning situations that support this type of giftedness emphasize the use and application of material and thinking processes in an integrated, inductive and real problem oriented manner with the goal to make the learner a first hand inquirer.¹⁶

Further arguments against the use of cut-off scores as a means to identify the gifted are offered by Robert J. Kirshenbaum. He suggests a number of alternate means of identifying creative students including creativity tests, teacher rating scales, self rating scales and a case study approach. Because IQ tests and grades can even have a negative correlation with creativity, he suggests that they not be used. He feels that, after extensive teacher training, teacher rating scales have been found to be effective in the identification of the creative. Also effective are self ratings such as GIFFI(Rimm and Davis,1980). Like Treffinger(1980), Kirshenbaum also recommends use of a case study approach in which ratings, test scores and student products are gathered into a composite portfolio. Utilizing this portfolio, one can produce a profile of strengths and weaknesses that allow judgement as to whether a student is gifted and/or creative.¹⁷

Elaborating further on the use of teachers as an informational resource in identifying and rating student creativity, Charles Pearlman notes that teacher perceptions are often criticized because they may have certain biases and they may be subject to the halo effect in which favorites are rated high. He feels, however, if teacher ratings are based on narrowed criteria, their ratings may be more valid even than one time administration of creativity tests because of the fact that teachers have observed students over a wide range of situations and circumstances.¹⁸

Writing in support of the use of creativity tests to identify the creative student, Torrance cites a number of studies, including two of his own. In two longitudinal studies, one of high school students done over a twelve year period and another of elementary school students done over a twenty year period, he feels a clear relationship between creativity test performance and real life achievements was demonstrated. In the high school study, two hundred and thirty subjects were involved. Data used included information about publicly recognized and acknowledged creative achievements such as patents, inventions, new products developed and marketed, books published, scientific discoveries, awards in the arts and sciences and new businesses initiated.¹⁹

His original tests of creative thinking were related to the four abilities of fluency, flexibility, originality and elaboration. There were two alternate forms of the test, "Thinking Creatively With Words" and "Thinking Creatively With Pictures". He also has a new streamlined form which considers five norm referenced and thirteen criterion referenced indicators and therefore it is felt to have better predictive validity than the earlier scoring system which considers only four norm referenced indicators.²⁰ Whichever version is given, Torrance urges that the test climate be non-threatening and as comfortable as possible with a game-like atmosphere.

J. P. Guilford's "Creative Tests for Children", which is designed for use with children in grades four through six, attempts to measure ten divergent production abilities. Tasks one through five are verbal and six through ten are nonverbal. He also stresses that the test environment must

be friendly , without the tinge of failure, and where possible, game oriented.²¹

"The Khatena-Torrance Inventory" is composed of two tests entitled "Something About Myself" and "What Kind of Person Are You?" Both are designed for adolescents and adults but can be given to younger children with the help of an adult. The first is a fifty item test based on the concept that creativity can show itself through personality traits, a person's thought patterns and/or in any products that one might make.²²

Recommendations for use of a group administered inventory utilizing a characteristics approach to screen for creative children come from Rimm, Davis and Bien. Used along with teacher and parent nominations, these instruments evaluate psychological, personality, motivational and biographical traits. One such instrument is GIFT, or "Group Inventory for Finding Creative Talent", which was developed at the University of Wisconsin(Rimm, 1976). It can be used with students in grades K-6.²³ When GIFT was used in the United States and in Israel, where it was translated into both Hebrew and Arabic, teachers report some students who scored high were great surprises to them. One was doing poorly in basic skills but had a great capacity for storytelling. Another was a potential dropout with creative curiosity about nature.²⁴

GIFFI I and GIFFI II(Group Inventory for Finding Interests) are available for use with older students. GIFFI I is for students in grades 6-8 and GIFFI II is for those in grades 9-12. These two instruments attempt to measure personality and biographical characteristics associated with creativeness: self-confidence, independence, high energy levels, adventurousness, risk taking, curiosity, humor, interest in art, interest

in ideas, attraction to complexity and mystery as well as one's background of creative hobbies and activities.

The authors conclude that the characteristics method, when combined with at least one other method, effectively identifies creative young people. Additionally, it also can identify the underachieving and culturally different child.²⁵

As seen in the recent studies of American schools included in the introduction, it appears that the fears of the proponents of creativity are being realized in the typical classroom today. This is not only most unfortunate but unnecessary as well since there are abundant examples, in the literature, of how to alter the traditional classroom to better serve the needs of the creative.

Meyer suggests ways that teachers can promote creativity:

1. Value the ideas of her/his pupils.
2. Establish an atmosphere of trust and safety where students feel that they can think independently and imaginatively.
3. Encourage children to see relationships, combine ideas and elements, explore possibilities, elaborate and analyze ideas.
4. Be aware that creative ideas often do not come at command and encourage students to jot down ideas for future reference.

He reported that when teachers begin to concentrate on encouraging creativity in children, they note two significant results: first, teachers become aware of abilities in their pupils of which they were formerly unaware; second, the pupils begin to value themselves more highly.²⁶

Further evidence of the ways teachers can foster creativity comes from the Torrance longitudinal study which asked subjects to recall those teachers who had helped them the most. Common factors recalled included:

1. All used a teaching style which encouraged participation.
2. Many questions were asked and all answers were accepted without humiliating the student with the result that the ability to brainstorm freely and to consider far out options was developed.
3. The emphasis was that learning is exciting and something that is good to share.
4. There was an interest in student's activities in and out of class.
5. Strong feelings of trust for students existed.
6. Children were made comfortable with their differences and were given confidence in their abilities.
7. Synthesis between various aspects of the curriculum was taught.
8. Behavior was modeled personally and reading of other's work was done to stretch the imaginations of the children.
9. Creative writing was encouraged as an everyday activity, not just as a special assignment.
10. The feeling was given that everyone had potential.²⁷

Other specific suggestions, of teacher behaviors that enhance creativity, are offered by Akers:

1. Probing-asking a student to clarify or comment on a statement that has just been made e.g. " that's interesting, I'd like to

hear more, how did you come to that conclusion"; this also helps students to recognize an error that may have been made.

2. Attribution-crediting students for their ideas by identifying the source of the comment
3. Modeling-demonstrating the kinds of questions or ideas wanted and thereby showing that creativity is also for adults
4. Reflect/Rephrase-pulling the salient points from a student response and crediting once again
5. Teacher Silence-waiting 3-5 seconds before commenting or calling on another student; it results in longer student responses, increased student to student interaction and increased variability in teacher questions²⁸

Frankel calls for the establishment of a non-threatening atmosphere where students feel free to express divergent points of view. Activities suggested include simulations, values clarification, case studies, games, panels, debates, projects and brainstorming. He also indicates that proper questioning techniques are essential.²⁹

Getzels and Jackson feel that teachers must be able and willing to distinguish between independence and unruliness as well as individuality and rebelliousness. Honest differences should not be misconstrued as malicious disruption. The authors indicate the need to provide time for creative children to work alone on their own ideas and interests. The difference between remembering and discovery and between information and knowledge should be acknowledged and efforts should be made to have students apply information that they know. In this process the curriculum should be structured for playing with facts using both convergent and

divergent thinking. Rather than concentrating on rote learning, drill and unrelated facts, stress should be on metaphors, similes and other similar techniques that would strengthen intuitive thinking. Teachers are urged to withhold critical observation until the student has had the opportunity to self evaluate creative production. Difficult tasks or assignments should not be avoided, because of possible frustration, since the challenge involved in dealing with this type of task stretches the imagination.³⁰

Callahan also calls for a non-threatening atmosphere in which student ideas are respected, ridicule of new ideas is not allowed, questioning is encouraged and student responses are encouraged to be open and uninhibited. The transferability of divergent production should also be stressed. Novel or new production should be rewarded in a systematic way and it is suggested that the reward itself be unique and unexpected. Stimuli for as many of the senses as possible should be furnished. When moving from convergent situations, warm up activities should be provided; this could include a reminder of the non threatening nature of the creative session, and if possible, warm up activities should relate to the lesson. Instruction in the principles of brainstorming should be provided and an attempt should be made to use real problems so that meaningful production occurs.³¹

Gowan, Khatena and Torrance refer to the need for a unique environment that is characterized by sensitive and alert guidance, receptive listening and responses to children that avoid ridicule and criticism. Specific suggestions include:

1. Ascertaining an area in which a child might meet with success and encouraging him/her to move in that direction.

2. Encouraging self initiated projects
3. Respecting the unrealized potential of low achievers
4. Grouping children so that a non productive child can work with a productive child so that peer influence may encourage improvement.
5. Building on the ability to fantasize and linking it with reality for the child
6. Capitalizing on hobbies, special interests and enthusiasm of the child
7. Being initially tolerant of disorder and complexity³²

Samples urges teachers not to make their assignments too specific or precise e.g. "find a million of something and prove it." He feels that ambiguity encourages thinking that identifies likeness, connections and that is experiential and metaphorical rather than theoretical and logical. Support for this type of assignment is given by reminding us of the need to be able to deal with uncertainty about the future and the expected continued growth in the amount of information to be processed.³³

Shallcross suggests techniques that can be used to increase ideational power including brainstorming, attribute listing, forced relationships and checklists. In brainstorming the teacher is reminded to avoid criticism initially, to allow freewheeling which requires a supportive atmosphere, to seek quantity, from which quality is more likely to come, and allow hitchhiking in which people build on the input of others. Presenting Crawford's Attribute Listing, she discusses the advantages gained by breaking an object into its component parts to seek alternatives. In forced relationships, through use of a matrix, objects not usually found

together are placed in close proximity to encourage new ideas of how each separately or both together, can be modified.³⁴

Implementation of Change or Innovation

Instituting the project into a school setting represented an alteration of the basic unit of the school, namely the classroom model. Because of the significant change that this represented, it was necessary to review how educators have responded to change and to formulate some strategies based upon successful adoptions of innovations.

A number of observers, of the American schools question the impact of efforts to bring about change. According to Goodlad, despite the many reforms advanced, as having potentially salutary effects for schools, few were in fact able to make a lasting impact. He felt, rather than moving to the prevailing rhetoric of criticism, schools expand or contract a little around the edges while continuing to play their traditional roles. Additionally, he observed that principals and teachers, who do not want what others seek to impose upon them, often are extraordinarily adept at nullifying or defusing practices perceived to be in conflict with the prevailing way of doing things.³⁵ J. Lloyd Trump saw American school methods and facilities as having evolved from what society deemed best at a given moment and molded by other cultures, by custom, by regulation and even by law. He saw the acceptable ideas of the schools as having become hardened and practices as not having changed basically for generations and their inflexibility making them difficult to alter. He saw improvement in American education as having been by refinement, not by redefinition. Each

improvement, while having its effect, has been limited by the existing framework of the schools.³⁶

Staff resistance to change has included the building principal as well as teachers. Karen Louis attributes principals' failure to be supportive of change to the fact that they are often not trained to be good managers, which she defines as one who makes or directs change. She sees them as usually being trained as administrators who are able to carry out the tasks that will allow the status quo to function efficiently.³⁷ Boyd sees conflict avoidance as central to the minds of school administrators because it is a leading theme in the "ideology" of their profession and because of their sense of political vulnerability. While a teacher may escape the hue and cry of an irate public, the administrator sees himself or herself as the most visible element of the system and therefore the one to be held accountable. Because there have tended to be few incentives to justify risk taking, that is associated with new ideas and/or practices, administrators have often taken the safer path of adhering to traditional practices.³⁸

Classroom teachers also resist change for a variety of reasons. When administrators push change, teachers see a threat to the autonomy of their classroom and often retrench. They also feel that administrators know little of what teachers face daily.³⁹ Duffy and Roehler see resistance to change as related to teacher psychological involvement with their operational practices. Accordingly, to give up a teaching practice that has been used for many years is painful. The operational practices and daily organizational patterns and routines for getting through the day are survival patterns. To change or abandon old practices threatens the

ability to survive in the classroom. These customary approaches to teaching are so strongly ingrained in staff that even when they may wish to adopt a new practice, it may be filtered by their perception of what should be. According to Duffy and Roehler there are four such filters:

1. the teacher conceptual understanding of curricular content
2. the teacher concept of instruction
3. the teacher perceptions of the demands of the working environment
4. the teacher desire to achieve a smoothly flowing school day.⁴⁰

Hearn also acknowledges the close personal relationship between the teacher and his or her methodology. He states that changing people is not an academic exercise than can be accomplished by memoranda. It is a process that tampers with people's cherished value systems. As persons and as a group, innovators represent a real threat to the psychological, social and economic "health" of many individuals. He continues with the analogy of health by comparing innovations to foreign bodies in an organism. He reminds us that unless an organism is seriously ill, it will resist instinctively all foreign bodies. It will release "enzymes" to destroy the innovation or to isolate it and eventually reject it from the body politic. In short, the innovation will be met with blind resistance by the system.⁴¹

Taking an opposite tack regarding the effects of resistance, Zaltman et al argue that often staff resistance to change is good. They see teachers as perhaps the group which has the most innovations or pseudo-innovations thrust upon them. They feel that initial resistance can be healthy if it makes the advocates modify their proposal so that it better fits the existing system. They also point out that the highly standardized and routinized ways of dealing with students restrict

innovation. Also, teachers are not usually delegated authority to experiment and they have horizontal communication, that is restricted, little professional interaction and at most a small role in developing policies on matters that affect them.⁴² Goodlad also recognizes the volume of potential change and describes principals and teachers as often caught in a paralyzing inertia created by a bombardment of changing and often conflicting expectations.⁴³ Finally, as staff in the schools get older they become more cynical, perhaps justifiably, about Twain's Law of Periodic Repetition, which describes much innovation as merely re-occurrences of fads and changes that were previously tried and abandoned.

Although the warnings sounded by the aforementioned authors are helpful in preparing for change, it is also necessary to examine methods that might facilitate efforts. Howlett suggests that if change is processed through the politics of an organization it is possible to implement. First, it must be recognized that change comes in stages; Howlett suggest four:

1. conception where the change is proposed
2. acceptance where an evaluation decides whether the change is good or bad
3. development of the idea in detail and in logical order
4. implementation

Howlett suggests that too often people jump to stage number four without fully moving through the first three. He sees four criteria that contribute to successful change:

1. stakeholders are asked to participate in the planning and implementation
2. employees are encouraged to air their objections freely and early enough to make a difference
3. employees know the reasons for the changes and the objectives they are designed to accomplish
4. communications regarding a proposed change are complete and adequate 44

Oakes reports that reforms consistent with the interest of the professional elite, that she feels dominates the schools, will be given more support.⁴⁵ Sirotnik agrees and feels that people in the schools must be involved in change from the beginning. If they can have the opportunity to relate their own successes and failings from their own points of reference, and examine new knowledge in light of their own beliefs and practices, reform has a better chance to succeed.⁴⁶ Olivier sees the adoption rate as being positively affected if innovations are:

1. based on carefully planned research reflecting the needs of the community
2. supported by professional education groups
3. perceived by potential users as meeting some of their objectives
4. not too complex for the school's capacities
5. likely to yield observable results
6. technological in nature rather than behavioral or organizational; the latter are more difficult to adopt.⁴⁷

Trump and Baynham suggest that the first step in serving individual differences among teachers and students is to plan specific, individual programs only with and for those teachers and students who are particularly interested.⁴⁸

END NOTES CHAPTER II

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CHAPTER III METHODOLOGY AND PROCEDURES

Methodology

The methodology is a case study of a project that involved modifying a secondary classroom model that is frequently described by studies, such as that of Barbara Benham Tye, as being fairly typical in most high schools. The features of this model that were seen as in need of change included a focus on low level cognitive skills and rote memorization, concentration on many isolated facts that seldom were brought together, limited opportunities for students to interact with each other and the teacher in the learning process, the tendency for information to be taught without opportunities for transfer to other disciplines and an unexciting array of teaching techniques that were often limited to lecture or closed ended questioning. Because of constraints, that included staff availability, limited financial resources and scheduling patterns that precluded cross grade membership, it was decided that the modification should be made to courses within the mainstream of the curriculum and whose student population was limited to one grade level.

The focus of the programmatic changes was the impact upon a particular group of students who, research had shown, did not respond well to the typical classroom model. The group in question consisted of young people who evidenced a higher than average potential, especially in the area of creativity. It was hoped that the changes implemented to modify the classroom would result in the establishment of an atmosphere more conducive to learning for these young people. Of the changes, perhaps the most

critical to the success of the program were those that resulted in an supportive and less competitive atmosphere. While some of the students appeared to have a high potential for creative output, other students were added to the project because it was felt that they would respond positively to the modified classroom atmosphere.

After an explanation of the characteristics of a creative student, staff were asked to nominate students to participate in the project. Most students were drawn from the college preparatory but, a few were included from the standard level sequence; students in the standard level sequence have not usually planned to attend a four year college.

Process Used To Select Students

Materials describing characteristics of creative people were distributed to the staff and a series of small group sessions was held to answer teacher questions. Participation was voluntary and all but one teacher opted to take part in the nomination process. It is important to note that the teachers used several criteria in their nomination process. While there was a strong interest in students with creative ability or potential, there was also strong interest, on the part of the staff, in identifying students who had not performed to their suspected ability level and who might respond positively to the modified classroom atmosphere and methodology. At this time a teacher of English and one of history expressed interest in teaching the classes and they began an active role in shaping the project. A presentation of the proposed project was then made

before the superintendent and school committee and they voted unanimously to support the project.

A group of thirty students in grade ten was then initially nominated by teachers of English, fine arts and performing arts. The nature of the project was explained to the students, some activities designed to improve fluency and flexibility were undertaken, to demonstrate the nature of the changes that might occur in the classes while in the project, and students were invited to sign up for the program. Those expressing an interest were administered GIFFI II (Group Inventory for Finding Interests.) Designed by Rimm, Bien and Davis for use with students in grades nine through twelve, GIFFI II attempts to measure personality and biographical characteristics associated with creativeness: self confidence, independence, high energy levels, adventurousness, risk taking, curiosity, humor, interest in art, interest in ideas, attraction to complexity and mystery as well as one's background of creative hobbies and activities. Although the results of GIFFI II indicated that some students may have had significantly lower potential for creative activities than others nominated, it was decided to allow all students to continue in the project; the authors of the inventory also recommend that this instrument not be used to screen out students.

After taking GIFFI II, students again had the opportunity to decide whether or not they wished to participate in the program. If they decided to continue, a packet of information about the project was given to their parents and written parental permission was required for participants. Of the students who originally expressed interest, three chose not to participate due to a scheduling conflict that placed the English course

opposite an honors math that they needed, one dropped out of school for personal reasons and a third failed English for grade ten and chose not to make it up in summer school. Two other students asked to be included and, after staff concurrence, they were added.

Scheduling Pattern and Duration of The Project

The students were scheduled into the same English and World History classes that met daily for two consecutive periods of forty-three minutes each. The teachers were scheduled so that each was free when the other's class was being offered in the event that he/she wished to team teach or have the students for a double period. The duration of the project was one semester or approximately 90 school days.

Research Questions

Based on the literature dealing with ways to bring about change in the schools, the nature of creativity and the needs of the creative, a number of research questions were developed. These questions were seen as guidelines to help in future decisions as to whether the changes in the structure of the classroom brought about the desired impact on the students and should therefore be adopted on a permanent basis with the project being continued and/or expanded.

Research Question I

Will the students in the project be motivated to express themselves in a creative manner in the two content areas?

Research Question II

Will some of these students, who have experienced academic difficulty in these content areas in the past, show improvements in grades?

Research Question III

What impact will curriculum compacting have upon the amount of core content learned?

Research Question IV

By involving the teachers in the design of the project, will there be support and ongoing enthusiasm for the changes which serve as the basis of the new classroom model?

Research Question V

Will the results of teacher nominations of participants be similar to those of GIFFI II?

Scope and Limitations

Due to staff concerns over the integrity of the honors program currently in place, no students from the honors courses could initially be nominated. Although this eliminated some students who may have had the potential to benefit from the program, it was a necessary compromise that resulted in bringing about staff support and participation. Teachers viewed the honors sequence, that leads to the AP exam, as a valuable and

successful component of the curriculum and they would not support a new venture that might threaten this aspect of the curriculum.

Because of the variance in students academic backgrounds, with some coming from the college preparatory sequence and others from the non-college preparatory sequence, it was necessary for the teachers to offer special support to some students in areas such as writing skills and self image.

Open and complete explanations were given to students, at the outset of the project, about its nature therefore, any conclusions have had to take into account the possible impact of the halo or Hawthorne effect.

The necessity of linking both classes and freeing up each teacher when the other segment of the program was being offered represented unusual constraints for scheduling. One problem that resulted was a scheduling conflict with college preparatory chemistry, which had a lab one period per week, and approximately one third of the class had world history only four days per week. This had a great impact upon the amount of time that could be devoted to content.

The utilization of varied criteria for nomination of students by the staff created some difficulty in comparing the value of staff nominations vrs. a screening instrument such as GIFFI II.

Finally, much of the data upon which the evaluation of the project was based was produced by people who had a great deal of input in the development and implementation of the project. Because much of their input was subjective, one must take into consideration the possibility that the ownership derived from active participation in the formation of the project, may have impacted upon their perspective.

Data Gathering

1. Students were administered GIFFI II.
2. Students were pre-tested in World History on content. They were then post-tested at the end of the study with a mid-year examination.
3. The results of the final exams in the college preparatory English and World History classes were compared with the results of the students in the project in both content areas.
4. Students were given Form A of the Torrance Tests of Creative Thinking, at the outset of the study, and were post tested with Form B of the same Tests. These tests measure fluency, flexibility and originality. Each form consists of seven activities:
 - a. Asking
 - b. Guessing Causes
 - c. Guessing Consequences
 - d. Product Improvement
 - e. Unusual Uses
 - f. Unusual Questions
 - g. Just Suppose

The first three activities are based on a drawing. In Asking, students are asked to write out all of the questions they can think of about the picture. The nature of the questions relate to what they would need to ask to know for sure what is happening. They are told to not ask questions which can be answered just by looking at the drawing. In

Guessing Causes the task is to list as many possible causes of the action shown in the picture; the students are encouraged to guess. Guessing Consequences asks students to list as many possibilities as they can of what might happen as a result of what is taking place in the picture. Each of these activities is carried out in a five minute time frame.

The Product Improvement Activity asks students to list the cleverest, most interesting and unusual ways they can think of for changing the product so that children will have more fun playing with it. They are instructed to ignore price constraints. The product, which is a small stuffed animal, is shown in the test booklet as a drawing and the examiner has a replica which the students are allowed to handle and examine closely. They are given ten minutes for this activity.

Unusual Uses requires that students list as many interesting and unusual uses for cardboard boxes on Form A and tin cans on Form B. They are given ten minutes for this activity. This activity is a modified form of Guilford's Brick Uses Tests.

Unusual Questions directs students to think of as many questions about the item (boxes or cans) as they can. The types of questions are supposed to lead to a variety of different answers that might arouse interest and curiosity in others concerning the item in question. This is an adaptation of Burkhart's test that was designed to measure divergent power and uses the same scoring technique. (Torrance, 1966)

Just Suppose gives the students an improbable situation and they are directed to list the possible consequences of this situation.

The scoring for each of the activities is done for Verbal Fluency, Flexibility and Originality and a variety of reports is available.

Individual student reports include the raw score, a standard score on a scale with a mean of 100 and a standard deviation of 20, national percentiles which compare individual performance to the norming group and local percentiles which compare the individual with others in his/her group taking the test. A group summary provides frequency distributions of the scores for each of the three aforementioned categories as well as the average of the three. An optional special report is available that lists the concise record of the test scores for each individual within the group, giving raw scores, standard scores, national percentiles and local percentiles for each scoring category for each individual in the group. This report, the Group Listing/Group Summary, contains frequency distributions, means and standard deviations for each section of the test for the same group.

5. Students were given an opinion survey, at the beginning of the study, that sought to determine their likes and dislikes in the two content areas based on past experience with history and English courses. This survey also sought input regarding student expectations for the project and provided the opportunity for them to make specific suggestions relative to classroom activities and types of assignments that they wanted to see included. At the conclusion of the study students were asked to evaluate the project in light of their initial expectations, to self evaluate their growth in creativity, to examine the atmosphere that existed in the classrooms and to discuss activities that they had enjoyed the most or least.

6. Teachers were given assessment sheets, at the conclusion of the project, to evaluate the impact of the project on student creativity, amount of content covered and student motivation.
7. Student grades were compared with the grades earned the previous year in these two content areas.
8. Interviews were held with students as a group and individually, as well as with the two staff members, to get input to supplement the written surveys.

CHAPTER IV DATA ANALYSIS

Research Question I

Will the students in the project be motivated to express themselves in a creative manner in the two content areas?

The two veteran teachers reported that this group of students had an entirely different approach to learning and as a result they came up with a wide variety of creative activities.(see Charts 1 and 2) Some of these included the creation of their own country, individualizing of vocabulary testing, role playing, video taping their own scripted material and inclusion of art and music in reports. A key factor in the development of many of these activities was the atmosphere in the classroom. Initially non critical, less competitive and more supportive, it encouraged students to take an active role in brainstorming without the fear of staff or peer put downs. The open exchange of ideas between the students and staff and the active encouragement of the students ideas also proved to be an enriching aspect of the modified classroom. It was also noted, however that on occasion the students began projects that they did not complete, such as the production of MacBeth, and they tended to be unrealistic about the scope of others. The teachers also reported that the group was not easy to handle as they tended to shoot out ideas in a shotgun fashion and this sometimes made it difficult to maintain some continuity. Because of

- a. Students kept journals throughout the year. They were collected, read, and commented on every two weeks. Students were asked to record observations and experiences - visual, emotional, etc. The journals could then be used as inspiration for writing.
- b. Each quarter students were assigned a creative project based on an entry from the journals. The projects ranged from poems to stories expanded on to collages, to photographs, etc.
- c. For Chaucer, the students wrote Prologues to their own "Tales". They set Chaucer in the present day, created detailed "Chaucerian" characters, and wrote in rhyme. These were very successful, very creative.
- d. For "Beowulf", the students created and wrote an adventure for a present day hero. The purpose was to show the values of a society as reflected in its heroes.
- e. For A Tale of Two Cities, students wrote scripts in groups. The groups chose a scene from the novel, wrote the dialogue, rehearsed, and video - taped the scenes.
- f. For MacBeth, students planned a performance with music, costumes, special effects, casting, rehearsing, etc. A student director was in charge.
- g. During the study of the Romantic Period and the Romantic poets, each student brought to class a tape of some song or piece of music showing evidence of the Romantic characteristics studied. The tapes were played and each student explained the concept of his or her tape as Romantic in spirit.
- h. A unit on the argumentative essay and Nuclear War was conducted through the viewing of two different films on the effects of a nuclear attack - one very graphic, one subtle. Students wrote essays on which of the two films was a better deterrent for nuclear arms.

Chart 1 Special Activities in Creative English 11

- a. A puppet show recreating seventeenth century England and the question of Absolutism v. Democracy was performed. Students made puppets and performed with British accents.
- b. In conjunction with the study of Shakespeare, a very detailed model of the Globe theater was constructed.
- c. A video movie depicting events surrounding the French Revolution was written, performed and directed by students.
- d. In project Create-A-Country, students were asked to create a mythical country with all of the societal structures necessary to allow democracy as the form of government. This included a written constitution as well as a formal set of laws.
- e. Students recreated the events surrounding the assassination of the Archduke Francis Ferdinand.
- f. Students role played the main characters who participated in the Congress of Vienna.
- g. Students also role played the participants at the Paris Peace Conference following World War I.
- h. Students prepared scenarios to a series of "What if?" questions such as: What if Hitler had been able to defeat Great Britain?
- i. The students researched the family trees of the major European royal families.
- j. The students researched and recreated a celebration of Bastille Day.
- k. As part of the study of the French Revolution, some students role played the main characters and other students role played current news people who interviewed the revolutionaries for television audiences.

Chart 2 Special Activities in Creative History 11

their interaction with the students and the creativity evidenced, both teachers recommended that the project be carried out in future years.

Research Question II

Will some of these students, who have experienced academic difficulty in these content areas in the past, show improvement in grades?

As can be seen from charts three and four, there were mixed results with respect to grade improvement. Overall it appeared that all enjoyed classes more but, some still did less than was required by the course outlines, even though they had considerable input into the types of activities that were carried out.

In the world history course there does not appear to have been a significant impact on grades earned. Of the twenty-five students, fifteen had no real change in their grades (within one/half grade of their previous average), while seven showed an improvement of one grade over other previous year's grades and three had lower grades. The history data must be tempered with the knowledge that many students had this part of the program only four days a week because of a conflict with a chemistry lab. The expectations were that they were responsible for the same quality of work as those other college preparatory sections that met five times per week. In this context it may be that these students did perform better than their grades might first indicate.

In the English course only eleven students had no real change in their grades while twelve had improved grades and only two saw their grades lowered. Once again the three students who moved up to the college

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D	F
Grade 10	0	0	3	5	4	4	7	1	1	0
Grade 11 Sem 1	0	4	2	3	3	5	6	2	0	0
Grade 11 Sem 2	0	1	2	9	2	3	2	4	2	0

Chart 3 Grades Earned in History for Grade 10 and Semesters 1 and 2 of the Project

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D	F
Grade 10	0	1	0	4	2	4	3	3	4	4
Grade 11 Sem 1	1	6	3	4	8	2	0	1	0	0
Grade 11 Sem 2	3	4	4	4	1	4	2	1	1	1

Chart 4 Grades Earned in English for Grade 10 and Semesters 1 and 2 of the Project,

preparatory level were able to succeed with one actually improving his grades and the other two maintaining their average. The results of the improved grades in the English program may be reflected in the differences noted in the teacher evaluation of growth in creativity. The improved grades may have reflected better performance in this subject area which the teacher noted in her evaluation.

The students who moved up from the non- college preparatory level seemed to have benefited a great deal from the program academically. They were still able to do at least as well as in previous years. This was in part because the teachers were willing to provide extra time and effort to help them develop the writing and verbal communication skills necessary to successfully take part in the more demanding program.

On the basis of the mixed results, improvement of grades does not appear to be a good basis for instituting such a program although, students on the borderline between college preparatory and non-college preparatory may be able to succeed in this more interactive environment, if the staff involved is willing and able to give the necessary support. Teachers also noted that there was much less interest on the part of the students in the level of grades that they would receive on their work. The focus of the students seemed to be on the quality of the work without regard for the evaluation it might receive from the teacher. This attitude made it difficult to compare student work done in this class to that which had been done in previous classes where peer pressure with regard to grades may have impacted on their output.

Research Question III

What impact will the curriculum compacting have upon the amount of core content learned?

Because of the problem in scheduling, that resulted in many students being able to take the world history course for only four days rather than five, it is difficult to measure what might have happened if the entire week had been available. The general observations of the teacher were that the students had no difficulty in keeping up with the material covered in the regular sections of college preparatory world history. The results of the final exam administered at the end of the year, to his college preparatory sections and the creative class, also show no significantly negative impact, of the project in terms of content mastered. The average grade on the exam was 73.6 for the creative section and 74.22 for the two college preparatory sections. In the English course the teacher reported that the core of content covered in this class was similar to that in her other college preparatory classes. This was reflected in the results of her final exam which saw the creative section obtain an average of 79.5 and the college preparatory class 79.9. She very strongly felt that the many benefits accrued from the program more than offset any small loss of content. The students seemed to have gained a more in depth understanding of some very difficult material such as Pilgrim's Progress done in Middle English. She and the students requested that the program be continued in their grade twelve English class. It is also difficult to judge the impact of the attempts to align the courses so that topics could be treated in a humanities approach that allowed for easier transfer of knowledge between

the two content areas. This also resulted in better understanding of major themes, according to student reports in the follow up survey.

Research Question IV

By involving the teachers in the design of the project, will there be support and ongoing enthusiasm for the changes, which serve as the basis of the new classroom model?

As evidenced in their follow up written (see Appendix H "Teacher Post Questionnaires") and verbal evaluation, as well as their discussions during the course of the program, it is apparent that the teachers enthusiastically supported the goals of the program and were willing to do extra work to put it in place. Within their respective departments they spoke in favor of the program and took an active role in trying to implement it for another year. Their enthusiasm was a factor in persuading another faculty member to volunteer to take part another year, if the program is offered. The suggestion of Trump (1961), to seek out interested staff and students to help with adoption of an innovation, seems to have been sound. It should be noted, however that even before this project each teacher involved had a tendency to design his or her classroom in a somewhat less traditional manner. Administrative support, given by development of the project, seems to have freed them from worry about a possibly unfavorable evaluation, because of their more open approach, and allowed them to make open alterations to the usual classroom model. The two teachers were especially pleased that students were given a greater share in the planning of activities and that the students responded so

well. It also appeared that the active role played by the teachers in the shaping of the program, from its inception, led to a stronger feeling of collegiality.

Research Question V

Will the results of teacher nominations of participants be similar to those of GIFFI II?

During the initial stages of the project a staff meeting was held at which the concept was discussed. Following this meeting the staff received materials related to the nature of creativity (see Appendix A) and they were asked to review the tenth grade students that they had, in terms of the identifiable characteristics, and to recommend those that they felt would benefit from the project. A number of the staff followed up this memo with one to one conferences to clarify the criteria in their mind. The teachers nominated thirty students originally. Of these, the staff clearly identified three whom they felt were creatively gifted. Most of the other students seemed to be doing well in the fine or performing arts while some may have been underachieving in academic areas and yet have given some evidence of greater potential. For this latter group the nominations were based on the staff feelings that these students might benefit from the different structure of the program. Several of the students were in the non-college program but staff felt that they might be able to handle the level of work in a different classroom structure. It can be seen that the reasons for staff nominations varied and, although demonstrated proficiencies in creative outlets such as fine and applied

arts were considered, the possible impact of a less structured classroom also played an important part in the decisions as to which students were invited to participate. It is important to keep this in mind when comparisons are being made with the results of GIFFI II because, the staff never considered the entire group of students to be creatively talented but, rather used a variety of criteria as the basis for selection.

The authors of GIFFI II describe the purpose of their creativity inventory as identifying students with attitudes and interests usually associated with creativity. These attitudes include independence, curiosity, perseverance, flexibility, breadth of interests, risk-taking, sense of humor and biographical information. They further state that while high scores, above the eighty-fourth percentile, are one good way to select creative students, more than one identification procedure should be used including teacher, parent and/or peer nominations. They urge that creativity inventory scores, like achievement test scores or I.Q. scores, be utilized to screen young people into a program and not out of a program. Therefore, they consider teacher nominations as valid as the results of their inventory.

Thirteen of the students in the project scored in the high range, on the inventory, but only three of these received strong notations, from teachers of academics, about a high potential to exhibit creative output. One of the three was involved in drama and another in choral music. Of the remaining ten, four students were in performing musical groups at the school, one excelled in creative writing, one was active in the school club that worked closely with a local cable t.v. station, two were interested in art and one was interested in photography. The three students who received

the strongest staff comments, all received the highest possible score on the GIFFI II. Two of the three excelled in the project according to the staff in grades, classroom participation and in the leadership that they have given to the class generally. The third student did rather poorly, in terms of grades, but played an active role in classroom activities.

However, during the term of the project this student met with great success outside of school in the performing arts. Of the remaining ten who scored at or above the eighty-fifth percentile, seven did well with grades, and by teacher observation, and the other three did passing work at the "C" range; one of these scored at the highest possible percentile on the GIFFI II. It is clear that GIFFI II was able to identify students who were able to succeed in this type of program, as evidenced by the fact that twelve of thirteen students so indicated did at least acceptable level work. Of the remaining twelve students in the class, who were not identified by the screening instrument, eight did well, two did poorly and two entered the class after the screening instrument was given; these two were invited after some of the students initially recommended decided not to take part. Both of these students did well. It appears, therefore, that teacher nomination is effective even when the staff has no previous experience with the criteria. All of the students nominated by the teachers were able to pass the courses and the screening instrument reinforced thirteen of their choices. Based on these results, and the input regarding the benefits of involving staff in proposed changes from the outset, staff nominations seem critical to a project of this nature.

GIFFI II Compared to "The Torrance Tests of Creative Thinking"

The results of the screening instrument were also compared with the results of Form A of the "Torrance Tests of Creative Thinking" (see Chart 5). In examining the differences between GIFFI II and the Torrance, eleven students scored significantly higher (at least nine percentile ranks) on the GIFFI II than the Torrance while six received significantly lower scores on the GIFFI II; six had no significant difference in their scores and two students joined the course in September after the initial screening had been done and therefore they did not take GIFFI II. Of the students who scored higher on GIFFI II, seven did quite well in the course according to teacher rating and grades. Two other students did acceptable work and two did very poorly. Of the six students whose results were similar between the two measures, two scored above the ninety-fifth percentile on each. Of the six students who scored lower on GIFFI II, three did well in grades and had a substantial improvement in originality according to the Torrance, one who moved up from non-college courses did acceptable work and showed improvement in originality, one had poorer grades than in previous years but showed substantial improvement in originality and the sixth did good work as reflected by grades but was the only one who went down in all three categories on the Torrance Test.

It appears that GIFFI II was a better predictor than the Torrance in terms of students who scored highly and succeeded in the course but, because of the number of students who were not indicated by GIFFI II as having potential and the several who did poorly, it appears that the combination of the two instruments, to support teachers nominations, is

Student Number	GIFFI	Torrance National Form A	Torrance Local Form A
10	none	74	50
6	99	50	19
14	99	18	2
20	99	97	87
25	99	66	40
18	97	46	10
9	97	95	83
3	94	62	35
19	94	79	62
23	92	88	69
13	88	29	6
11	88	79	62
21	85	91	75
17	85	74	50
15	84	48	13
8	80	97	90
22	80	93	79
7	75	62	35
12	75	88	69
4	70	98	98
2	70	67	44
24	59	98	94
5	54	77	56
1	45	52	27
16	none	50	19

Chart 5 A Comparison of Percentile Scores for Giffi II and "Torrance Tests of Creative Thinking" Form A-National and Local

best. Between the two instruments, eighteen students scored in the high range and only two of these had problems with the course or, according to the teachers, succeeded very well in class discussion but not in doing outside work. Therefore, the combination of instruments supported most of the teacher nominations and even those students not predicted to excel succeeded in the program. This data supports Kirshenbaum's and Treffinger's separate recommendations that a composite of teacher recommendations and test results should be used to identify potentially creative students.

Indicators of Growth in Creativity

Because of the orientation toward the support for creative efforts, three measures of possible growth in creativity were examined: student self evaluation, teacher evaluation and the A/B forms of the "Torrance Tests of Creative Thinking".

The students, in their self evaluation of growth in the three sub categories of fluency, flexibility and originality, saw significant growth for approximately fifty percent of the class and some growth for the other fifty percent.(see Chart Number 9) This contrasts sharply with the results of the Torrance test which indicated a small drop in the categories of fluency and flexibility but a substantial gain in originality. In the category of fluency the mean percentile score for Form A was 79 while the mean percentile on Form B was 74.92.(see Chart Number 6) For Flexibility, the Form A average percentile was 80.08 and the average for Form B was 76.36.(see Chart Number 7) In contrast, the average percentile score for Originality rose from 44.56 on Form A to 84.88 on Form B.(see Chart Number

M=much S=some L=little N=none

Student Number	Student's	Teacher One	Teacher Two	Torrance Form A	Torrance Form B
1	S	L	M	56	34
2	S	L	S	83	98
3	S	S	S	66	67
4	M	L	S	99	99
5	M	S	S	87	79
6	M	N	S	56	27
7	M	L	S	84	95
8	S	L	S	99	90
9	M	S	S	99	73
10	S	S	M	79	58
11	S	L	S	92	91
12	M	L	S	99	93
13	S	L	S	24	36
14	M	N	S	20	44
15	N	N	S	84	64
16	M	N	S	77	71
17	L	S	S	80	97
18	M	S	S	31	46
19	M	N	S	86	40
20	M	S	S	99	98
21	N	L	L	97	82
22	S	L	S	98	97
23	S	L	S	98	98
24	S	N	S	99	98
25	M	L	S	83	98

Chart 6 A Comparison of Individual Student Growth in Fluency
by Student Self Evaluation, Individual Teacher Rating and
"The Torrance Tests of Creative Thinking" National Norms Forms A and B

M=much S=some L=little N=none

Student Number	Student's	Teacher One	Teacher Two	Torrance Form A	Torrance Form B
1	M	L	M	79	44
2	M	L	L	79	96
3	M	S	M	84	60
4	S	S	M	99	96
5	S	L	L	84	64
6	S	N	S	69	60
7	M	L	M	76	84
8	S	L	L	98	82
9	M	S	M	97	64
10	M	S	M	92	40
11	M	N	S	86	93
12	M	L	S	94	96
13	S	L	M	54	36
14	M	N	S	34	73
15	S	N	S	46	82
16	S	N	S	54	82
17	S	S	S	79	88
18	M	S	S	50	50
19	S	N	S	86	60
20	M	S	S	99	99
21	M	L	L	97	93
22	M	S	S	99	89
23	M	L	S	95	86
24	S	N	S	99	99
25	S	L	S	73	93

Chart 7 A Comparison of Individual Student Growth in Flexibility by Student Self Evaluation, Individual Teacher Rating and "The Torrance Tests of Creative Thinking" National Norms Forms A and B

8) In the teacher's review of student growth, the input was different for the two staff members. Generally, the evaluations given by the teacher of the history section were closer to the results of the Torrance Test. He saw little or no growth in either fluency or flexibility while he gave high ratings to the growth in originality. The teacher of English gave ratings of growth that were considerably higher than those given by her team partner, especially in the area of fluency. In this category her rating was very close to that given by the students themselves. In the category of flexibility, although higher than either the results of the Torrance and those of her team partner, she saw less growth than the students. She was very close to her partner and the Torrance in evaluating originality where she also saw a significant gain.(see Chart Number 9)

In looking at the discrepancies between the evaluation of progress between students and teachers as well as the differences between the teachers themselves, it would be easy to ascribe inflated student ratings to their lack of understanding of the three criteria. While this may indeed have played some part in the results, one must consider the possibility that the high ratings may be reflective of generally positive feelings students had about the changes in the format of each class. Having had the opportunity, for the first time, to work in the areas of fluency, flexibility and originality, on an ongoing basis throughout the project, students may have inferred significant growth as a result. In fact, through their personal interviews, it appears that certain popular and very successful activities, such as the creation of a country in history and the alternate approach to the study of A Tale of Two Cities ,

M=much S=some L=little N=none

Student Number	Student's	Teacher One	Teacher Two	Torrance Form A	Torrance Form B
1	S	S	M	23	34
2	M	L	S	34	99
3	S	S	M	31	91
4	S	L	S	73	99
5	M	L	N	54	96
6	M	S	S	27	56
7	S	S	S	21	82
8	S	L	L	90	82
9	M	S	S	66	86
10	S	S	M	38	94
11	S	N	M	44	92
12	M	L	S	40	98
13	S	L	M	14	46
14	S	N	S	8	88
15	N	N	M	15	76
16	M	N	S	20	88
17	M	M	M	64	96
18	M	M	S	58	99
19	S	N	S	58	54
20	M	S	M	71	99
21	M	S	N	58	98
22	M	S	S	56	98
23	S	L	S	44	73
24	M	N	S	73	99
25	M	S	M	34	99

Chart 8 A Comparison of Individual Student Growth in Originality by Student Self Evaluation, Individual Teacher Rating and "The Torrance Tests of Creative Thinking" National Norms Forms A and B

Student Self Rating

	Much	Some	Little	None
Fluency	12	10	1	2
Flexibility	14	10		1
Originality	12	11	1	1

Teacher 1 Rating of Student Growth

	Much	Some	Little	None
Fluency	0	7	12	6
Flexibility	0	8	10	7
Originality	2	10	7	6

Teacher 2 Rating of Student Growth

	Much	Some	Little	None
Fluency	2	22	1	0
Flexibility	7	14	4	0
Originality	9	13	1	2

Chart 9 Growth of Creativity as a Group as Seen By Students And Staff

seem to have made a great impact on them and the success in these appears to have possibly slanted their perception of their overall growth.

The differences in ratings between the teacher of history and the teacher of English may, in part, be due to the evaluative criteria used by each but, may also be based on the type of activities carried out by each in his or her respective classroom. The greater diversity of the English curriculum may have played a role in allowing the development of a larger number of creative activities and thus the teacher may have reflected this factor in her ratings.

The fact that each teacher gave the highest ratings to growth in originality may be due to the fact that the students, in the project, demonstrated some extremely original approaches to learning, as compared to other of their college preparatory classes. However, Torrance, in his 1966 study with a much larger sampling of 800 students, also found that teachers were better able to identify student growth in originality than in fluency and flexibility, insofar as their ratings of growth coincided with the results of his test of creative thinking. In this category, of course, staff observations were similar to the results of the "Torrance Tests of Creative thinking".

Since this was the first experience for each teacher in a program like this, their ability to evaluate creative output might be expected to be refined with further work. In fact, they have each commented on how they enjoyed the project but, that they expected to be able to make improvements if it was offered again. The teacher ratings, which were considerably closer to those of the Torrance, than those of the students, suggest that

curricular decisions, regarding such programs, would better rest on teacher observations than on those made by students.

"The Torrance Tests of Creative Thinking" were scored independently by the agency recommended by the author of the test thus allowing for a greater degree of objectivity than would have been possible with on site scoring. Both forms of the test were given by the same person so that variations in test conditions were minimal. Therefore, in looking at the drop in fluency and flexibility scores against the increase in originality it is necessary to look for other factors. In discussions with Dr. Mary Fraser of the Torrance Center, it was her feeling that the students, as a result of their experience in the project, may have learned to go beyond the quantitative production of ideas on the B form to more qualitative and evaluative responses. In a similar discussion of Dr. Doris Shallcross of the University of Massachusetts, she pointed out that flexibility and fluency can be considered as process steps leading to a final product which is closely related to originality. If indeed the creative process, as described by Turner, is a series of steps leading to an original or novel response or product, then the observations, by Dr. Fraser and Dr. Shallcross, and the similar result of all evaluations that showed growth in the area of originality (see Chart 10) would indicate some measure of success with the project, in terms of facilitating the development of creative skills.

The participants were asked about the types of activities that contributed to growth in creativity and/or served as motivational tools. The teachers noted that, as with any group of young people, the students in the project worked better on activities in which they had a great deal of

Student Number	Flu-N-A	Flu-N-B	Flx-N-A	Flx-N-B	Or-N-A	Or-N-B	Avg-N-A	Avg-N-B
24	99	98	99	99	73	99	98	99
4	99	99	99	96	73	99	98	99
20	99	98	99	99	71	99	99	99
2	83	98	79	96	34	99	67	98
25	83	98	73	93	34	99	66	98
18	31	46	50	50	58	99	46	77
22	98	97	99	89	56	98	93	96
12	99	93	94	96	40	98	88	96
21	97	82	97	93	58	98	91	93
5	87	79	84	64	54	96	77	83
17	80	97	79	88	64	96	74	95
10	79	58	92	40	38	94	74	69
11	92	91	86	93	44	92	79	92
3	66	67	84	60	31	91	62	76
16	77	71	54	84	20	88	50	82
9	99	73	97	64	66	86	95	76
7	84	95	76	84	21	82	62	88
8	99	90	98	82	90	82	97	85
15	84	64	46	82	15	76	48	74
14	20	44	34	73	8	71	18	71
23	98	98	95	86	44	73	88	89
6	56	27	69	60	27	56	50	48
19	86	40	86	60	58	54	79	52
13	24	36	54	36	14	46	29	40
1	56	34	79	44	23	34	52	38

Chart 10 A Comparison of Scores Earned on Forms A and B of "The Torrance Tests of Creative Thinking" Showing Fluency, Flexibility, Originality and the Average Using National Percentiles

interest and had to be encouraged to deal with tasks that they saw as less interesting. Within the class various individuals reflected differing views about the activities carried out. In the history class students were asked to develop their own hypothetical nation. For some this was the highlight of the year; for others it was an onerous task. In English, the use of dramatic readings, role playing and writing journals met with similarly mixed results. There was a consensus that the variety of activities offered allowed most of the students to find some motivating piece of work that encouraged their participation in the class. The teachers reported generally good support for projects that allowed individuals to bring their particular interests to bear on a task. These included oral and visual presentations by teams of students, preparing a play for video taping and a novel approach to testing of vocabulary which allowed students to devise alternative presentations. One of the more interesting of these was an ongoing dialogue between two boys in the class which included all of the words covered during eight weeks of vocabulary. Also very important to the students generally, was the chance to discuss, in depth, the major events in history and major literary works. Teachers reported that students had the ability to deal well with the major themes that shaped the historical events and that were included in the literature studied.

Impact of the Altered Classroom Model

Some problems continued despite an altered classroom model. With the development of a more supportive environment it was expected that most students would respond positively. As can be seen from Chart 11, some of

Number	Giffi II	Torrance A	Torrance B	Teacher	Grade
24	21	2	1	15	25
4	19	1	2	9	13
20	1	4	3	1	9
2	19	15	4	25	15
25	1	16	5	7	3
22	15	6	6	11	1
12	17	8	7	22	22
17	12	13	8	5	3
21	12	7	9	15	18
11	10	10	10	15	21
23	9	8	11	22	12
7	17	17	12	14	19
8	15	3	13	19	9
5	22	12	14	19	7
16	na	20	15	11	2
18	5	23	16	1	17
3	7	17	17	3	8
9	5	5	18	8	6
15	14	22	19	19	24
14	1	25	20	10	23
10	na	13	21	3	3
19	7	10	22	22	16
6	1	20	23	18	20
13	10	24	24	11	13
1	23	19	25	6	11

Chart 11 Comparison of Student Ranking on Giffi II, Torrance Form A-Raw Score, Teacher Evaluation of Creativity, Torrance Form B-Raw Score, and Academic Grades

the students, with the highest scores on the "Torrance Tests of Creative Thinking", did rather poorly in terms of being able to meet more traditional evaluative criteria. In most cases these students did very well in classroom projects and discussions but still failed to do their outside assignments such as term papers. The impact of personal problems upon performance in the classroom also continued. Changing home situations, problems in extra-curricular activities and sundry other personal matters were reflected in student inability to or unwillingness to meet the teacher expectations. These students did comment, in their follow up evaluation, that other students in the class were helpful and that the atmosphere did assist them to personally cope with the situations they faced.

Because of the importance placed upon the learning environment by Torrance, Khatena, Gowen et al, the impact of a more supportive environment upon student willingness to risk more honest and open responses and increased participation in class was examined. One of the ground rules that was established at the outset of the program was that there was to be no ridicule of any student or teacher response and that there must be a supportive atmosphere in the classroom. Trust building activities were carried out during the first week of the project and these were followed by discussion of student feelings. The result was that twenty-three of twenty-five students reported a feeling of security and trust in the class that allowed them to advance new ideas and challenge old ideas without fear of ridicule. Teachers noted that several students, who were almost painfully shy, were given excellent support by the rest of the class and the encouragement received allowed these shy students to take part in class

discussion, which, for some, was the first time. The school counselors, who do a career awareness program for students in grade eleven, commented that the atmosphere in this class was different than any that they had experienced in any other class that they had worked with. They also noted the supportive atmosphere and the fact that students seemed willing to share some personal views without reservation. The supportive atmosphere was especially helpful in the generation of ideas for various projects by use of brainstorming.

CHAPTER V SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The purpose of the study was to examine the impact of a revised classroom model upon a group of eleventh grade high school students some of whom were identified as having a greater than average potential for creative output and others who, it was felt, might benefit from a more supportive atmosphere. Students were selected for the program by teacher nomination and by use of GIFFI II, an interest inventory. The teachers nominating were involved in the teaching of English and history as well as the fine and performing arts. The teachers initially nominated thirty students based on the dual criteria of potential and need for support. After scheduling, twenty five students participated in the project. According to GIFFI II, thirteen of the students nominated initially scored in the range usually manifested by creatively talented students. Also, nine of the students scored above the eighty- fifth percentile on Form A of the "Torrance Tests of Creative Thinking", a score which indicates strength in the area of creativity.

Combining the results of the two tests, eighteen of the students tested in the creatively talented range. These students were successful in meeting the course requirements. Additionally, of the seven remaining students, all were able to handle the level of the work and six succeeded very well, as indicated by the teacher's evaluation and grades. In fact,

some of these succeeded better than students identified as creatively talented.

These results support the theories of Pearlman (1983) regarding the validity of staff nominations, even when dealing with these criteria for the first time. A specific example of the value of teacher input involved a report about one of the two boys who had the ongoing eight week vocabulary related dialogue. It was noted that one of these two boys not only participated very successfully in this creative exercise but, also was an accomplished musician, a good creative writer and played an active role in class brainstorming exercises. Despite these visible examples of creativity, he scored very low on both the A and B form of the Torrance Tests. In follow up discussions he indicated a disinterest in testing. If participation in the project had been based solely on the criteria of test performance, this young man would not have been placed in the class and yet he did quite well. When teacher nominations were combined with the screening device, GIFFI II and the "Torrance Tests of Creative Thinking", into a composite portfolio, as suggested by Treffinger (1980) and Kirshenbaum (1983), a high rate of success in identifying potentially creative students was realized.

The active involvement in the shaping of the program, by the two staff members involved resulted in their strong support for the project. The sharing, by the teachers, of the planning for activities with the students, combined with their use of supportive techniques with the students resulted in a high level of motivation on the part of the learners.

Conclusions

Depending upon the criteria utilized, it appears that the project was a success for many of the students because their grades remained at least as high as in previous traditional classes while they reported being very motivated by the program. The fact that grades remained at the same level as previous years or rose for most students is even more remarkable considering the fact, as reported by the two teachers, that these students had relatively little concern for the grade received for work turned in. What seemed to be more important was what the teacher thought of the product. Even those students who did not do particularly well, as indicated by grades and teacher evaluation, reported that they enjoyed the class and they felt that they had gained because of the experience; this was borne out by gains in originality for all students, as indicated by "The Torrance Tests of Creative Thinking". It is interesting to note that this gain occurred despite the fact that the focus of the project remained the meeting of course expectations, as determined by the set curriculum, rather than creativity itself. This finding is supported by E. Paul and Pansy Torrance who reported that verbal creative thinking abilities receive useful practice through expert indirect teaching while the figural creative thinking abilities, especially elaboration, receive such stimulation under the expert directed teacher.

The program demonstrated that the types of alterations made in the traditional classroom model, whereby students were allowed a more interactive role, were beneficial to the motivation of the target group. This was reflected by the fact that all but one student requested that the

project be continued with their senior English and that student's only expressed concern was about preparation for college. This enthusiasm, and the performance as reflected by grades, scores on the "Torrance Tests of Creative Thinking, and scores on the final exam, support the findings of Benham-Tye (1985) that learning is both more meaningful and more likely to be permanent when the learner has an opportunity to make it his/her own through both active involvement and reflection.

Another change that was critical to the success of the program was the establishment of an atmosphere that was supportive and free from criticism and sarcasm. In an environment similar to that advocated by Jenkins(1982), the atmosphere was humane without being permissive. He described a humane school as one where the teachers set an enriched, stimulating and invitational atmosphere in which each student becomes more willing to take a few well chosen risks to personalize learning. Continuing, he saw this type of classroom as being characterized by a mixture of change, care, individuality, warmth, and support. In this type of classroom, he felt the student would feel trust and "then be willing to venture beyond the safe world of now, into the realms of the unknown where the returns are less visible and only potentially fruitful." The students in the program overwhelmingly (twenty three yes; two no) commented on how the atmosphere in the room encouraged them to dare to advance new and different ideas.

For the staff also, it appears that the program was a success. Each teacher reported that he/she looked forward to the scheduled meeting time with these students even though the students were sometimes difficult to keep on track. The role the teachers had in shaping the course, and the support of the administration for their efforts, seemed to motivate the

teachers to work diligently and to enjoy the program. In fact, the course will be extended to grade twelve English and another section of grade eleven is being planned, with a third teacher having volunteered to teach the English section. It must be noted however, that the two teachers who taught the program had a tendency to organize their classes, prior to the project, in a more open and project oriented manner. The project merely legitimized their efforts and gave them supportive data and materials to move further in the direction of their innate interest and teaching style.

From an administrative perspective the project was also a success. Although the nomination and identification process was another task added to an already busy schedule, and the scheduling parameters caused problems during the building of the master schedule, the time and effort were well spent. Two staff members were given an opportunity to branch out in a direction in which they had interest, a new alternative was made available to students, some of whom had been turned off by the traditional classroom model, and the program cost less than five hundred dollars to implement. Other than some texts on creativity and the cost of the two tests that were administered, there were no additional costs. It also served as an example to other staff of how the classroom could be modified without great cost, without a significant loss of factual content and with a significant increase in student motivation. In a school where change in the past had been implemented, for the most part from the top down, the active staff involvement, in nomination and development, broke down some barriers of suspicion and mistrust about change.

One difficulty in implementing such a program in a small high school is the question of cost effectiveness. In fact, a particular grade may not

have a sufficiently large group of students who can be identified as having creative potential so that the class size can be kept within reasonable limits without placing undue pressure on the numbers in other classes. In attempting to implement this program for another group for the year following the project, this problem was faced. It was decided to fill the class with other college preparatory students who were not concrete sequential learners and who would therefore not likely be hurt by the modified environment.

It is clear that change can be introduced into schools if one is cognizant of the procedures that both assist and work against adoption. Involvement of the staff in a meaningful way from the outset is critical to the success of the effort. The change must take into account the existing structure and compromises may have to be made, as was the case with the honors program in this school. With respect to replication in other schools, it is necessary to recall the comments of Fullan (1982) and Sirotnik (1985) who speak of the unique contextual circumstances that exist in every school. These include attitudinal climate, financial resources, community composition and leadership coordination. This programmatic change took place in a school that had a veteran staff, a traditional curriculum and a history of change, much of which had been shortlived. It succeeded because of the interest of two staff members and the support of the administration. It would appear that, because the criteria required for implementation in this school were so limited, the program should be replicable in other schools, if close attention is given to the process used. However, in setting one's expectations for such a project, one should heed the warning of Torrance that no teaching and no disciplined

approach to creative problem solving will guarantee creativity. They only increase the probability that creativity will occur. The project should be seen as a means to establish a balance with the traditional classroom rather than as a cure all for students who are turned off to education because of the usual teacher centered methodology. As Boyer reminds us, there is a place in the classroom for telling or lecturing. However, he offers a counterpoint "...that there is also a time when probing questions should be asked and when the teacher should direct the student's mind from the familiar to that which is less known, but no less important." (1983) The results of the project, in terms of markedly increased scores in originality, support Boyer's latter point.

Recommendations

Since approximately one third of the students who took part in the program were not identified as creatively talented by either GIFFI II or "The Torrance Tests of Creative Thinking" and, yet these students enjoyed the class and succeeded in maintaining good grades, it appears that some of the modifications could be adopted in classrooms with other types of populations. One such effort was made in Greenville South Carolina where the honors world history course was taught in a manner somewhat similar to that used in this program. The teacher involved in that project also spoke highly about the advantages of compacting the curriculum so that students could deal with topics in greater depth. She also allowed students greater than normal opportunities for input. (Lasher, 1986) Combining the results of this project and that undertaken in South Carolina, it is clear that

serious questions must be asked about the impact of the traditional classroom model upon all student populations. Since students across the ability spectrum responded positively, in terms of motivation, and were able to successfully master the core content of the courses involved, it would seem that serious consideration should be given to the possibility of modifying all classrooms so that the needs of all learners are taken into consideration in the planning and implementing of methodologies. If the typical teacher dominated secondary classroom continues to turn off large numbers of students, the results of this project suggest that allowing students some measure of input may provide a much needed motivation.

The removal of much of the competition and criticism, that is found in many secondary classrooms, was noted by the staff and students in the project as important to the success enjoyed. Since this change in classroom atmosphere was brought about by direct staff attention to these problems and the use of group techniques that resulted in trust building, it appears that all teachers might reap similar benefits with their classes if time was taken at the beginning of each year to carefully lay out expectations with regard to these matters. The ongoing support given by the teachers during the project also brought results that made the effort worthwhile. This level of interest in each student seems to help break down the barrier between staff and student without introducing undue familiarity. It suggests that all teachers should examine the type of interaction that they have with their students.

The enthusiasm of the staff, that was engendered by their shared role in developing the course from the outset, supports the literature about change that calls for this early involvement in change by those to be

affected. It suggests that the collegiality gained by this sharing of responsibility is an important consideration in planning any change in a school.

The success enjoyed by the students, that was related to the blending of themes in the two classes, points out once again the importance of structuring learning so that transfer between content areas is facilitated. It is suggested that packaging information in departmental containers is not the most efficient way to learn and that more in depth understanding will occur and the likelihood of greater retention will increase when transfer is easier for students.

The relative disinterest of the students with respect to grades earned for work turned in suggests that teachers ought to rely less heavily on this traditional tool, or weapon in some cases, to motivate students to perform to some predetermined and fixed standard.

The general benefits accrued by both staff and students should encourage administrators to look for alternative organizational patterns within their schools. The extra work involved in developing the schedule and small additional expense were justified by the results. The building of the project around staff interests and teaching style suggests that greater attention should be paid to these matters when developing curriculum and staff assignments. The enthusiasm shown by teachers who were allowed to use their strengths may suggest a way to combat boredom that can set in with experienced staff who have been forced to accommodate themselves to external expectations in terms of how a successful classroom should operate.

While some contemporary critics rail against such a process oriented approach, as was taken in the project, because of a perceived inadequate mastery of content, it may be an ironic reality that the alleged lack of mastery may be due rather to the boring, unimaginative and poorly constructed methodology, and failure to address process, that too often marks the typical secondary classroom, according to observers such as Benham-Tye. The ability to balance, in this project, the learning of content with a concern for the process used demonstrates that it is not necessary to abandon either when the voices of special interests groups call for attention to be paid solely to one or the other.

The gains in originality, demonstrated by student output, teacher evaluation, and the results of the "Torrance Tests of Creative Thinking" suggest that attention should be paid to this important human dimension within the mainstream of the high school curriculum, as well as in the fine and performing arts.

Secondary school administration is often described by practioners as being most successful when one ascribes to the theory of operation whereby everything is kept as simple as possible. The success of the project in terms of student output as well as increased motivation of staff and student suggests that the complexity introduced into such administrative functions as scheduling, teacher assignment and curriculum development by the project is worthwhile and that if one is willing to take some risks, the status quo, with all of its problems, can be modified so as to better serve the clients of the system, namely the students.

APPENDICES

Appendix A

Teacher Post Questionnaire

1. Please rate each student on the categories of fluency, flexibility, originality. Please do it twice: the first time rate them according to the growth you have seen in them, using the following code: M-much, S-some, L-little, N-none. The second time rate them according to a comparative rating scale by placing them in quartiles with F-first quartile, S-second quartile, T-third quartile, B-bottom quartile.

(this data included in the text without names)

2. How did this class differ from other college preparatory classes?

A.

More discussions, less lecture

More student input

Projects/presentations

Less quizzes and exams

B.

The students are more out-going, much less inhibited in discussion.

They are also more tolerant of one another's opinion

They are not as responsive to structured assignments, are not as grade-conscious, and are apt to be more inconsistent in the quality of their work and the quantity of their effort.

3. What impact did this class construction(homogeneous with creative potential) have upon:

a. Your ability to cover the content associated with the course?

A.

All topics were covered, although we were unable to be as in-depth on some

B.

Because the students in such a group have so much to offer it is often tempting to go into topics in greater depth; then time becomes a problem. It is hard to cover all aspects of the college preparatory 11 course in the time available. However, I do feel that fewer topics in greater depth are more valuable than a quick look at great numbers of works.

b. The type(s) of methodology you used?

A.

More emphasis was placed on student involvement and less on traditional lecture or presentation.

B.

More group work

More hands-on projects to use their varied talents

Role-playing, conversations, etc. for ex.- conversations for vocabulary presented on stage rather than written assignments.

c. Your attitude and motivation to work with students?

A.

Usually very enthusiastic, but on occasion this class could be very trying

B.

The rewards of working with such a group are many-They are responsive, enjoyable, and much easier to become close to as individuals.

d. The tests and other evaluative criteria you would normally use?

A.

I tried to vary the tests used and tried to take advantage of individual creative talents.

B.

Fewer tests, more writing assignments for evaluation-to use their analytical and synthesizing skills. Self and group evaluations have been successful and valuable

4. What problems did this grouping present to you?

A.

Due to an increase in the amount of freedom allowed this class, certain individuals, who have been lazy in the past, took advantage of the situation and gave almost no effort at all.

B.

They are sometimes inconsistent in the amount of effort put forth-when "turned on" great effort is expended. When an assignment does not have high interest, they are less apt to work. Usually they do not work for the reason of achieving good grades.

5. Please comment on student to student interaction; was there a more close knit and supportive atmosphere than in other classes? If so, was this because you stressed it more than in other classes?

A.

Yes. I think it was due to the nature of the class rather than anything I did. One negative factor seemed that large groups formed and there was little interaction between groups.

B.

Yes, there was definite evidence of a close-knit, supportive spirit. Many of them have similar interests outside of the classroom-music, drama, and

many of them spend time together in these activities. There is also a spirit of camaraderie that comes from the very nature of this type of student.

6. What suggestions do you have for modifications in:

a. the selection process

A.

Students who will not give any effort should be weeded out.
Students who are not college prep material should not be allowed in.

B.

Interviews by teacher in addition to recommendation of former teachers.
Clarification of purpose of class so that recommending teachers will know.

b. scheduling

A.

The conflict with chemistry lab must be eliminated.

B.

Worked well.

c. focus

A.

Same

B.

Get music and art departments also involved; haven't done that yet, only through individual student projects.
Less emphasis on the under-achiever; more on the creative student.

7. Do you feel that this type of project and pattern of grouping should be continued and/or expanded?

A.

Yes. There is a generally positive attitude among students

B.

Definitely continued
Expanded if there are students who would benefit
There may not always be such a group

8. What type of student benefitted most from the project?

A.

Those who were by nature creative and who were willing to push their talents and abilities to their limits.

B.

The student who can work independently

The student who needs choices

The artistic, truly creative student who will bring that aspect of himself/herself to all work.

The student who thrives in a freer atmosphere.

Were there some who did not benefit? Reasons why?

A.

About 6-8. Reasons: lazy, lack of interest in anything relating to school

B.

A few who were not working before and who did not work in a new format

A few who were not comfortable with the less-structured format

9. Evaluate your opportunity to shape this project: Were you given sufficient support and opportunities for input?

A.

It has been an excellent educational experience, although it has been difficult at times to know which direction to go in. Next year would be much easier.

B.

I would have preferred to be more involved in the selection process. Support was more than sufficient.

10. If you think that the project should be expanded, how should other staff be involved or recruited?

A.

Yes, if the students are there. A mistake would be to include non-college students just to fill a class.

B.

Contact the art and music departments for input on the possibility of their participating. How much?

11. Did you see a change in the ability of the students to use problem solving techniques

A.

Some, although again this was on an individual basis

B.

Most students showed an improvement; one could almost see the wheels turning. A few will never be creative problem solvers.

12. General input:

A.

None

B.

A very valuable addition to the curriculum. The benefits are many-never do I see more motivated students-not every day but often.

Eliminates clock watching, etc. which is sometimes the case in more structured settings.

Exciting for the students; exciting for the teacher-shows what can be done with the same curriculum, same materials, just new perspective.

Appendix B

Informational Assessment

In an effort to determine where we should begin, where to go and how much to include along the way, this questionnaire has been designed to give you your first opportunity to provide input about these courses. Please think carefully about the responses you make and answer them on an individual basis; although quite a bit of group work will be done, this should be done alone. Similar exercises will be held at the end of the year and perhaps along the way as well so that we may have your input in evaluating the course.

a. In English, please rate the following from 1-4 with 1 being the most enjoyable and 4 the least enjoyable for you:

94 ___ grammar
62 ___ poetry
43 ___ writing
61 ___ reading literature

b. In English, please rate the same items except this time let 1 be that area in which you did the best and 4 that area in which you did the worst.

58 ___ grammar
83 ___ poetry
59 ___ writing
61 ___ reading literature

c. In English class which of the following did you like least and best(use the same system as above):

102 ___ lecture
50 ___ group work
63 ___ student and teacher discussion
93 ___ verbal presentations by students
74 ___ filmstrips or other av
 ___ other(please specify)

d. In social studies class which of the following activities did you like least and best(use the same system as above:)

95 ___ lecture
50 ___ group work
63 ___ student and teacher discussion
93 ___ verbal presentations by students
74 ___ filmstrips or other av
 ___ other(please specify)

e. Which do/would you prefer to study most in social studies/history courses
(1-4 with 1 being your top preference)

- 79 ___ political events
- 68 ___ impact of events on people(the masses)
- 64 ___ individuals and how they affected history
- 54 ___ the development of art/music/poetry/literature
- ___ other(please specify)

f. What or how would you like to gain from this program in the following areas:

1. academically -(2)the c.p. material needed for grade 11; increase my knowledge and really understand; discussions; do well on my SATs; more discussion, less lecture; (2) improvement in grade; (2) a new understanding of why events in history happened, not just that they occurred; good grades and better understanding of writing points; pass; pass and have fun; gain better understanding of art/music in the past; get ready for college; a wider area of information than in other classes; to do more extra activities besides just English and history; get B's; better organizational skills; to better understand literature; achieve to my highest potential; read some interesting books; (2) to learn but in more interesting ways than usual

2. new skills or understandings-to use my creativity in learning, relating with people and using new perspectives to accomplish things; understand group relationships as well as creativity and how it develops; to be able to understand poetry; learn how to cooperate and listen better; learn how to go about things in a different manner that will help me learn more; learn some new skills or understandings; lose the word creative; poetry and other skills; in a creative way to be able to write things in a more orderly way-like story telling but on paper; methods of research and understanding original method; develop better writing skills; public speaking and debating; to improve writing and oral presentation skills; different specialized fundamentals of English and History; huh?;

3. other-have fun in school work; I still want to learn English and I don't want to go into grade 12 and be lost; for once I'd like to do something I'm interested in rather than what the teacher is interested in; just to express myself clearly; skills

g. What would you like to see included in the grading for these courses besides tests and quizzes?

Nothing because one's creativity and eccentricities can't be judged fairly with grades; willingness to learn and quality of creative work; (8) class participation; classroom behavior; grading on how we attack things and how well we do with projects; (5) presentations; (3) small projects; activities; caricatures and short stories; absence of grades-pass/fail; (3) attitude; (2) group work; things we write or create; brownie points; homework; extra research and events; effort; how you demonstrate yourself; nothing;

h. How would you like this program to differ from other English and History courses that you have taken?

to use my creativity in school for once; present in an interesting way have fun and enjoy learning, plays etc.; do more skits, outside work-class gets boring if one does the same thing in class day after day-it would be fun to have some originality; to have more freedom, within reason, to do what we want; group things- go on field trips; allow me to learn more about my interests and relate it to English and history; have student debates, more discussions between students and teachers; be more flexible-allow us to show off our creativity; like to learn more than dates and occurrences with memorization especially in history; more creative writing assignments than tests; relate it to my interests-music and drama; exercise more freedom-maybe a little variety; quick advancement-don't spend a lot of time on one project; more input-less dusty facts; letting the person understand the lesson on his own; debate, games, activities less boring and monotonous; make less boring; be more understanding; don't play by the book, approach things in a different way; more discussion of enjoyable but serious topics; approach the subject in a different manner and have discussions; have creative projects; more involvement and discussion rather than just lecture; it won't be as tedious and straight forward, more comparison to similar not so much comparison to the dissimilar; not more of the average class with just more reading and typical question and answer

i. What are some behavioral guidelines for the class that you think will be necessary or helpful?

not to take advantage of our verbal and other freedoms and approach activities with an open, mature mind; allow others room, support; treat us as adults and have a sense of humor; one person speaking at a time; pay attention and be part of the class; listening to peers, let them have the floor not just the teacher; none, creativity inspires violence; (2) none; allow some talking, loose the class atmosphere, more unstructured debates; listen very carefully; a lot of openness between student and teacher; understand others views equally; support each other; discussions shouldn't get out of hand over small things and turn into arguments; cooperation by everyone, maturity; if we're basically pretty good kids there's no need; a bullwhip (this is a joke)

j. What are some behaviors and actions that you feel would be harmful to this type of program?

not listening to another student's point of view and talking out of turn; regiment schedule; negativity; being very boring; thinking it's all fun and goofing off; genocide should not be allowed; all, it just puts more limits on the individual; no knives like Mr....; (2) if people fool around; excessive talking; do things person by person rather than with group; put downs; people being too judgemental and close minded; bad attitude; feelings of dislike to other classmates; negativism

k. Of the students in the class, how many do you know:

___ well

___somewhat

___not at all

1. Since a major focus of the program is creativity, what kind of activities/projects/assignments would you like to see included so that you could express your creativity?

(3)group discussions,(2) field trips, lectures, plays, games of knowledge; class skits; some activity outside of class, plays, concerts; study people in a mall like the honors English; ones to do with modeling and drama;

(4) writing assignments; history presentations by students properly done without rush job; creative writing and art with more art than writing; Donald Murphy tap dancing; art; debates; exercising; people watching; poetry readings, viewing and discussing the expressions of art, poetry and literature; certain artistic projects; female mud wrestling

Appendix C

Student Post Questionnaire

1. Please rate your growth, during the duration of this course, in the areas of fluency(ability to generate many ideas with words) flexibility(ability to produce a variety of kinds of ideas, to shift from one approach to another, or to use a variety of strategies), originality(ability to produce ideas that are away from the obvious, commonplace or established) please use the following letters:M-much, S-some L-little, N-none

	Much	Some	Little	None
Fluency	12	10	1	1
Flexibility	14	10	0	0
Originality	12	11	0	1

2. How has the course differed from your original expectations?

- a. Did not generate as many creative modes of learning as expected
- b. There were fewer debates/discussions than I anticipated.
- c. There is less note taking.
- d. I have found it easier to voice my opinions in class.
- e. The course is different and interesting but the required material still limits the time devoted to creative things.
- f. I think we are given enough freedom but certain projects have limited me by their requirements.
- g. I thought there would be more creative writing but, creativity was done mostly in projects instead.
- h. None
- i. Not much. It has been a class which I felt I could be myself and be unrestrained with my ideas.
- j. The ways in which material is given and introduced is a lot different.
- k. I thought it would allow us to use our minds more.
- l. Less structured but a freer atmosphere to work in.
- m. I have been so used to taking notes or doing problems for 45 minutes that this has been a healthy change.

3. Was the atmosphere supportive enough to encourage you to dare to express unusual responses? If not, how could it be modified to allow this?

yes 22 no 2

4. What new skills and/or understandings did you gain?

- a. Learned to write more in larger areas of topics.
- b. Learned to put more of myself into projects

- c. How to let "weird" ideas flow and work them into schoolwork.
- d. Ability to contribute towards a whole group.
- e. Different way of looking at things.
- f. Not paranoid anymore about expressing an idea that may be different
- g. Better writing skills
- h. Doing most of the work myself and directing it
- i. Able to think of topics to write about
- j. Learned new ways of studying and remembering information
- k. Able to feel OK about being an individual
- l. Knowing that I learn better on my own
- m. The ability to think about the impossible and carry it out
- n. A new look at Shakespeare
- o. A new look at the effect creativity has around us
- p. Smarter about life in general but not schoolwork
- q. To openly express myself and show some of my talents in more academic ways

5. What was the impact of being together with the same students so much?

- a. Learning more about one another
- b. Made expressing your ideas easier
- c. Personally made some very close friends among people I probably wouldn't have gotten to know.
- d. You could be yourself and not worry about the clowns
- e. We got too used to each other; there wasn't enough changing around of groups
- f. Able to understand who they are
- g. Has made learning more fun

6. What activities did you enjoy the most/least?

A. Most

Vocab conversations
 Putting together the play
 creating our country
 Trust building stuff
 Group projects with friendly competition
 Creative Writing Journal
 Tale of Two Cities interviews
 Class Debates

B. Least

Having to get up in front of the class
 Grades
 Being group facilitator
 Essays
 Writing mechanics
 The confusion that exists sometimes
 Creating our country
 Lack of learning

7. Should this type of class be extended to your senior year? Why?

yes 23 no 1

most students felt that they needed to build on the experience and they dreaded going back to a traditional class.

8. Should this type of class be extended to other groups of students in grade 11 next year or also in grade 10?

With respect to another grade 11 project, 17 yes 0 no 4 no answer

With respect to grade 10 project, 12 yes 9 no 3 no answer

9. What impact did this program have upon your grades in English and history?

Some up, some down; see charts of grades

10. Did the team structure help you to transfer knowledge and/or understandings between the classes?

yes 20 no 1 no response 3

11. For those in the history class for only 5 days, how did this impact upon your experience?

consensus was not too much impact because of the work of the teacher

12. What were the good or bad points about the program?

a. G-strong bond of trust; B-not much accomplished in creative aspects of the class

b. History had too much time hanging around doing the project; when the test came, not enough material had been covered

c. G-you are together with people that you have something in common with B-we don't want to go back to a regular English class

d. G-A new and different approach to learning

B-Certain skills must be learned and it is hard to do them in a creative way

e. We don't seem to be covering the material that should be in a college preparatory program

f. It's overall a great program but limits and boundaries are still present. I wish it could be more open. I don't like to feel restrained, see now, regular classes kill me.

g. G-A student with creative ability can express himself and not feel strange about doing so; to me there aren't any bad points

h. They are all good and too difficult to go into

i. Better environment, not as boring, learn more; sorry, but no bad points

- j. G-structure but open, individual/group projects , grade system
B-vocabulary
- k. I found no bad points. There was so many good points involved. Most of all I'm glad I got a chance to be in this class.
- l. B-we would get an idea and start to expand on it and we would take so long that it wouldn't work
- m. G-It is a really comfortable atmosphere where we can ;talk openly with the teacher and still learn; it's also like we're being taught, not read to like in some classes
- n. G-open, able to be freer,wild B-loose structure
- o. The first year is always rough and you need time to plan
- p. G-Double period B-history has too many objectives-gets boring
- q. G-Sometimes really got a lot out of the projects B-Sometimes discussions pulled away from the topic-class turned into a zoo
- r. The class made learning the material easier and I believe we have learned more than other classes
- s. There were many cliques

13. Suggestions for refinements or improvements:

More attention to creativity as a form of learning rather than a form of communication

Need to be challenged more and a firmer hand

Needs more organization

Give the students more freedom; find a room for open discussions

A little more grammar

Selection process must be stricter; the teachers who made the nominations did not understand the seriousness of this class.

More structure

We should be allowed to come up with our own ideas for projects

Find a way to make History more interesting

Should stick to some if not all required work adding activities to the work assigned.

Keep the class the same as now

Appendix D

Notice to Teachers of History or English

To: (Teachers of English and History-by name)

From:

Re: Teacher's Choice

Your help is needed in identifying present members of the tenth grade who display creative potential beyond the average. A project is being developed for next year that would allow the scheduling of selected students into a special section of grade 11 English and Social Studies the methodology of which would be altered to take advantage of the unique strengths of these young people. In addition to your input selection criteria will include screening tests that indicate creative potential as well as a self reporting inventory that does the same.

Specifically, the characteristics of a creative person reflect five areas:

1. fluency(the ability to produce a large number of ideas) 2.

flexibility(the ability to produce a variety of ideas or use a variety of approaches) 3. elaboration(the ability to fill in the details) 4.

originality(the ability to produce ideas that are off the beaten track) 5.

redefinition(the ability to define or perceive in a way different from the usual, established, or intended way); I have attached a sheet with further information that you may find helpful in making your decisions.

Obviously your input reflects a great deal of subjectivity. I am asking that you review the students that you have this year in grade 10 for some of the aforementioned characteristics. Additionally, the students for this section should have the ability to handle college preparatory work but need

not necessarily have excelled academically this year; they may also presently be in the standard level or even honors level class. They may have demonstrated greater strengths in class discussion or projects rather than traditional testing. They may have done better on maps than written assignments and would probably have done better on assignments that gave them a chance to deal with content in a holistic manner, such as discussion of themes that have further applicability beyond the text, rather than specific references to content within a particular setting. If you did role playing, they may have surprised you in that their ability in this situation surpassed their normal output. In terms of learning style preferences, they may be tactual, kinesthetic or visual rather than auditory learners.

Would you please review your current students in grade 10 and give me a list of those whom you feel might benefit from and/or enjoy this type of class and who demonstrate the characteristics that I have described. Please give your list to Ruth no later than the close of school on Friday March 14.

Appendix E

Notice to Teachers of Art and Music

To: Teachers of Art and Music

From:

Re: Special program for students with creative potential and/or who are right brain dominant

As I mentioned at the most recent staff meeting, one of the projects that is on the drawing board for next year is the creation of a special section of English/Social Studies for students who may have a greater than average potential for creative output. As you can see from the letter sent to staff members in these departments, sometimes these students are not currently doing well in academic classes because their strengths are not always utilized in designing class activities. On the other hand, many of these young people have excelled in the fine and performing arts and now that we have a preliminary list of current tenth graders who were identified by their academic teachers I would like you to examine the list and make comments as to the appropriateness of those chosen and add names of any current tenth graders not on the list who you feel would benefit from such a program.

Appendix F

Teacher Nomination Form

Teacher Name _____

Please list the students you are recommending for the special sections that will be creativity oriented. Where it says current class level please use one of the following codes: H for honors, C for College St for standard. Under the section marked strengths please indicate any comments you feel would be helpful.

Student Name	Current Level	Comments
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Appendix G

Informational Letter for Students

Developing Creative Potential

You have been nominated for consideration to take part in a pilot program for next year. The program is based upon the knowledge that not all students learn in the same manner and that not all students succeed equally well at all assigned tasks. The design of the program is to schedule students with common strengths and interests into a section of English 11 and World History that would follow the college preparatory curriculum but, would use different teaching methods to take advantage of student strengths and interests. The particular strength or interest we are talking about is creativity or creative expression and a learning style that is right hemispheric dominant. It is hoped that in addition to mastering the usual key material in the curriculum, the students would develop new skills including problem solving, gain new understandings about themselves, and enjoy the learning experience more in part because they will be given the opportunity to help shape class activities. (The English section would be taught by and the History section by)

The final decision with respect to participation will be based upon your input, as expressed in the interest inventory entitled GIFFI II, your teachers recommendation and permission from your parent. GIFFI II is an acronym for Group Inventory For Finding Interests. On a five category scale: no, to a small extent, average, more than average, definitely, you will respond to questions about things you like to do. The inventory is machine scored with results available about 1 1/2 to 2 weeks. The results

simply help you to look at the level of interest you might have in such a program.

Remember, you do not have to participate and after further review, it may well be the case that you or the school may decide that this is not the most appropriate program for you. There may also be some scheduling conflicts that may prevent your participating.

Please share this paper with your parent and discuss the matter fully with them. Remember that parental permission is necessary for participation.

A final decision has to be made before we build the master schedule for next year. Since this is done during the April vacation the following timeline will be followed:

1. Initial meeting with students Tuesday March 24
2. Filling out the interest inventory Wednesday March 25
3. Discussion with individual students upon the return of the inventory results(which as noted take from 1 1/2 to 2 weeks) ; approximately April 7- 9
4. Final decision no later than April 14

Appendix H

Letter to Parents

Dear Parent/Guardian:

April 7, 1986

Hopefully your daughter/son has spoken with you regarding the information enclosed in this letter. However, because I remember the way my sons communicated with me while in high school I have taken the liberty to enclose full details. Please feel free to call me if you have any questions after you have read this material.

For some years I have been of the opinion that we in the schools have been guilty of trying to educate all students in the same manner without regard to their learning style or preference. During my recent doctoral work I became very interested in one group in particular who might benefit from an altered methodology namely, those who have greater than average potential in creativity. Your child has been identified by a staff member as one who may fit this description. As a first step toward designing programs to meet their needs, we are establishing a special section of junior English and history, both of which they would take anyway as required courses. The goals of the program are as follows:

1. To establish a supportive environment which encourages students to use original thought in such things as divergent thinking without fear of peer responses.
2. To identify the core of content that is crucial to the understanding of Western Civilization and English Literature and concentrate on learning that in depth as well as studying the cause and effect of major events to develop reasoning skills.

3. To develop methodologies and class activities that are conducive to the development of creative abilities in students.
4. To provide opportunities for student input in the design of learning activities.
5. To develop creative problem solving abilities.
6. To integrate music, drama and art in a humanities approach with the social studies and English .
7. To identify student learning styles and teach students how to use their style in all learning situations.
8. To develop an appreciation for the value of creativity in its varied expressions: music, art, writing, speech, poetry etc.

The courses would be taught at the college prep level and the material of the courses would be covered in depth. This will be a program with a strong academic core but one that will be approached in a different manner. Pre and post tests will be administered to help in the assessment of the success of the program. Some specific skills that will be addressed include writing, speaking and creative problem solving.

So that you will have some idea of exactly what we mean when we use the word creative or creativity, I have included the following information about this topic:

What Creativity is and is not

1. It is not aimless conjecture about amorphous matters.
2. It is a definable process involving often intense preparation. The stages of the creative process are usually described as follows: a.
Preparation- a period of in depth preparation and study by which a person

becomes familiar with a topic. b. Incubation- a period in which the subconscious and/or preconconscious mull over the material in an attempt to design a solution to a problem or formalize a creative impulse (art, music, poetry etc.) c. Illumination- the realization of the insight which is the outcome of Incubation d. Verification- a critical evaluation where the idea or product is evaluated for effectiveness, utility, possibility of implementation etc.

3. It is a process that draws upon both hemispheres of the brain at different stages of the process but, which is likely to be more right brain dominant and thus responds more to holistic approaches that allow inference from a general principle.

4. It is characterized by Fluency- the ability to generate many ideas or solutions, Flexibility- the ability to produce a variety of ideas or approaches Originality- the ability to produce novel responses to a situation or new uses for a product, Elaboration- the ability to build upon another idea, to expand, to modify, to fill in Resistance to premature closing of one's mind about something which allows fullest development of ideas Metaphorical Thinking and Richness of imagery which sees things or situations from a varied perspective .

It is envisioned that Mrs. Pawelczyk will teach the English portion and Mr. McCarthy will teach the history portion. I, as a former teacher of English and history and a person with some knowledge of creativity, will serve as a consultant in the modification of the curriculum and the development of appropriate teaching/learning activities. I will also draw upon the resources of the University of Massachusetts at Amherst to assist in the program design. I am presently organizing a dissertation committee

and if they like the project I will submit a description of the results to them; under no circumstances would names of individual students ever be sent if the program becomes part of a report.

I hope you share my excitement about the potential of this program to benefit your child and point the way toward a greater realization of the uniqueness of each student. Because this program has been added since you approved next year's course offerings, I am asking that you sign the cut-off portion below and return it to my secretary Mrs. Cote, by April 12. Once again, please call me if you have any questions.

Sincerely,

Principal

I give permission for my daughter/son _____ to participate in the new program for students with creative potential.

Signature _____ Date _____

Appendix I

Breakdown of Costs for the Project

I Testing

A. "Torrance Tests of Creative Thinking"

Form A	\$50.60
Form B	26.40
Scoring	200.18

B. "GIFFI II" (including scoring) 100.95

II Texts on Creativity 70.20

Total \$ 448.33

(note: the extra cost for Torrance Form A was due to the fact that the tests come in packets of twenty-five and originally there were more than this number for the course. For Torrance Form B there were only twenty-five students and one packet was required. Additionally, there is a test kit for administering the exam that was purchased with the Form A. The scoring for the Torrance includes one late Form B which cost nearly as much to score as the rest of the exams. The GIFFI II testing allows the scoring of later administered exams without additional cost)

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